THE PHONOLOGY OF THE VERBAL PHRASE IN HINDKO

submitted by

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CONTENTS

INTRODUCTION

This thesis deals with certain aspects of the Hindko dialect of Lahnda (which belongs to the North-Western group of Indo-Aryan languages) as spoken in Peshawar City, the Capital of North-West Frontier Province of Pakistan.

"Lahnda is the language of the West Panjab. To its East it has Panjabi, spoken in Central and East Panjab and it merges so gradually into that speech that it is impossible to fix any dividing line between the two. For our purposes we may take a convenient line running North and South through the Central Panjab and call everything to the West of it Lahnda; but it must be understood that the change from one language to the other is so gradual that many typical Lahnda peculiarities will be found on the East of the line and many typical Panjabi peculiarities on the West. The further West we go the less traces we find of Panjabi and we may consider Lahnda to be finally established on the districts of Multan and Jhang.

The existence of Lahnda, as a separate language has long been recognized under various names such as Jatki, Multani, Hindki or Hindko and West Panjabi.

In the plains of the Panjab Lahnda has to its East Panjabi. Towards the North, in the hill country its Eastern neighbours are the Dogri, Panjabi of Jammu and Kashmiri and in the extreme North Shina on its East. Along the Western border of Kaghan it has the Kohistani dialects of the Indus, lower down, along the Western border of Hazara, as far as, and including Dera Ismail Khan, the language on the West is Pashto, and below that in Dera

Ghazi Khan, it is Balochi. At Ahmadpur, where the boundary line turns to the East it has Sindhi to its South, and further East, in South Bahawalpur, the language is the Thali dialect of Rajisthani." (Grierson 1916, pp 233-34).

The only attention that the dialect of Lahnda spoken in Peshawar has received from linguists is a brief reference to it in the Linguistic Survey of India by Sir George Grierson published in 1916. Commenting on the language he has stated that "Lahnda cannot be called the language of the district of Peshawar, any more than it can be called the language of Kohat. Peshawar is a Pashto speaking district . . . There is no territorial division between the two languages. The speakers live side by side, and the distinction is one of nationality and not of locality." (p554).

It is not clear as to what Grierson means by nationality. Perhaps he means nationality based on religion, as he refers to Hindko as a language of Hindus. The specimen of prose given by him seems to be of a Hindu speaker. If it is so his comments are not correct. There are certain parts of the district such as villages of Khalsa Chamkani, Kukrā and city of Peshawar where the language of the majority is Hindko and they are Muslim. Hindus who settled in the district, and were scattered throughout the Pashto speaking areas used to speak the language of their ancestors, mostly various dialects of Lahnda and Panjabi. Their language can, therefore, not be regarded as representative of the language of the Hindko of the district.

Grierson's term Lahnda is not known to the speakers of Hindko all of whom refer to their language as Hindko and object to the term Panjabi. While the origin of the name is unknown it seems reasonable to associate it with the Indus River and the Hindu Kush range of mountains which form the frontier of Hind for people further West.

"The great city of Peshawar contains a further mixture of peoples. Here, not only are Pashto and Hindko spoken but also Hindostani, Panjabi and other languages of various parts of India. All these have contributed to *corrupt Hindko, and we therefore find not only very free use of Persian and Arabic words, but even of Hindustani itioms . . . Here the mixture of languages is so great that some, not without reason, describe this form of Hindko, locally known as Peshawari as a mongerel produce of city life." (pp 554-55). (*The underlining is mine. I do not agree with the concept of corruption in linguistics).

He then gives two specimens saying that "The first is a version of the Parable of the Prodigal Son in the language of the district, andthe second is a ghazal, or ode, in the language of the City.

The language of both specimens is nearly the same as North-Western Lahnda of Jhelum, Dhan and Hazara." (p 555).

Grierson does not specify the part of the district which the first specimen belongs to. As such it is

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1. This gives strength to my conclusion that the specimen of the prose is one of the dialects spoken by Hindu settlers.

not possible to know as to which dialect of Hindko of Peshawar it represents. I find it impossible to relate it to any of the dialects of the district. The specimen of ghazal is not representative of the City language. Being a piece of poetry it has far more Persian and Arabic words and some constructions which are not usual to prose. This has led Grierson to incorrect conclusions such as "we even have Persian idioms used with Indian words. Thus 'vich' is used as a pre-position, not as a post-position and we have 'gham mahshar-dé-né' for 'mahshar-dé. gham-né', and order of words entirely un-Indian, and due to the memory of the Persian 'gham-e-mahshar' (555)."

The normal order of words in day to day speech is 'mahshar-dé gham-né'. He further states that "the influence of Panjabi and Hindostani is very strong . . . The post-position of the Ablative is Hindostani sé (sab-sé, sā lā̃-sẽ). In the Peshawar specimen we have the Hindostani ăsā̃ (=aisa), of this kind and kucch, instead of kujjh, anything (p 555)".

The post-position form 'sẽ' is restricted to poetry. In prose the form is 'si'. Again ăsa is restricted to poetry. It is hardly used in normal speech. Furthermore 'ăsā̃' is Persian and not another form of 'aisā̃' of Hindostani or Urdu. With regards to 'kucch' he has perhaps been mislead by the script it is kujjh, pronounced as [kʊj:ə].

My purpose here in making the aforementioned comments is not to criticise Grierson but to point out that the specimens given by him are not representative of the Hindko of Peshawar and hence his analysis is not relevant.

According to the Linguistic Survey of India (1916) the population of Peshawar district was 788,707 of which 129,000 were Hindko speakers. The number of speakers in the City of Peshawar itself was 50,000.

According to the Census carried out in 1961 the population of Peshawar City was 218,691. In the absence of any recent linguistic survey it is not possible to state exactly as to how many of them speak Hindko. However, my impression is that the number of Hindko speakers in the City is 70 per cent of its total population, which is approximately 140,000.

Hindko is very rich in poetry and has produced many reputable poets during the last several centuries. But their works have never been preserved in a written form. However, there are still many persons, mainly poets, who remember quite a reasonable amount of the works of these poets. As far as prose is concerned almost nothing appears to have been written in the past. However, early in this century a local newspaper encouraged the prose writers of Hindko by devoting a column every week and then a page every week. Only few short stories and miscellaneous tit-bits have been produced in written form. In the early '60s Radio Pakistan Peshawar introduced a Hindko programme named kawa xan:a. This monthly half-hourly feature programme still continues.

The first book ever published in Hindko was diwane kail'a collection of poetic works of a living poet, Ustad Ghulam Rasool Ghail. This was collected by Fahmeed Atish and edited by myself.

Although Hindko has existed in written form for some time it has no uniform orthography as yet. Persio-Arabic characters are used, but in case of sounds which are peculiar to H ndko there are various practices. For instance the word [pɒl'] is written by some as بھل [bhɒl], whereas some prefer it to write as پہل [pɒhl] still some others write as پل [pɒl]. Another word [jãɪ̃] is written in three different forms:

جان جاڑ جانڑ

and the word [kol'] is written as کوہل [kohl] کہول [kəhol], کول [kol] or گھول [ghol].

In view of the diversity I have not used orthographic transcription or romanic transliteration of that orthographic transcription.

My parents come from Peshawar City where I was born. I have spent greater part of my life in Peshawar, though I have spent some time in Ambala and Amritsar (East Panjab), India also. But even during this period we were not cut off from Peshawar.

I matriculated from the Panjab University in 1950 and passed my Honours in Persian Examination from the same University in 1952. I graduated from the University of Peshawar in 1957 and passed my M.A. in Persian, M.A. in Urdu and M.A. in Pashto examinations from the same University in 1960, 1961 and 1966 respectively.

The speech under study is my own. Where I had some doubts on some points of pronounciation I have relied on my wife as informant, who is also a native speaker of this dialect.

It is worth noticing that Grierson has nothing to say on whether Hindko is tonal or non-tonal. Graham Bailey was the first to describe Panjabi as a tonal language. I find that the Hindko tonal distinction is two-term and not the three-term distinction described by Joshi (1970) and by Gill (1963) for Doabi and Majhi dialects of Panjabi.

Gleason and Gill (1963) have based their tonal analysis on the word unit; but I find evidence in Hindko for making the unit for my tonal statement not the word but the phrase, which in Hindko may contain from one to three words. In this I am following Kloster-Jensen, who has based his tonal statement of the tonal Norwegian dialects on the phrase. Both these Norwegian dialects and the Hindko dialect of Lahnda are of course Indo-European languages; but to the best of my knowledge my thesis is the first occasion on which Kloster-Jensen's phrase-based analysis has been applied to one of the Indo-European languages of the Indo-Pakistan Sub-Continent.

The thesis seems somewhat bulky in appearance because I thought it was important to include a tape recording of the more crucial examples (Appendix V). I anticipate that it may not be long before it becomes standard practice to include tape recordings in theses concerned with the phonetics and phonology of languages.

CHAPTER I

VALUES OF THE SYMBOLS USED IN THIS THESIS

1.00 Introductory

The purpose of this chapter is not to give a detailed phonetic description of the various sounds of Hindko, but to state the phonetic values of various symbols used in this thesis. This chapter, therefore, describes in general phonetic terms the values to be attributed to the symbols.

1.10. The following symbols used in this thesis have the I.P.A. values:

Symbols	Examples	English Translation
[p]	[pi]	Drink
[b]	[bol]	Speak
[k]	[kɛ]	Tell
[g]	[ga]	Sing
[m]	[mar]	Kill
[ŋ]	[məŋg]	Beg
[ɲ]	[mãɲj]	Clean
[x]	[cix]	Cry
[ɣ]	[nɪɣol]	Swallow
[w]	[war]	Sacrifice
[h]	[har]	Be defeated

1.11 The following symbols have the values as described below:

S.No.	Symbol	Description
1.	[t]	voiceless alveolar plosive
2.	[d]	voiced alveolar plosive
3.	[ṭ][1]	voiceless retroflex plosive
4.	[ḍ][1]	voiced retroflex plosive
5.	[c]	voiceless palato-alveolar affricate
6.	[j]	voiced palato-alveolar affricate
7.	[s]	voiceless alveolar fricative
8.	[z]	voiced alveolar fricative
9.	[ṣ][1]	voiceless palato-alveolar fricative
10.	[l]	voiced alveolar lateral non-fricative
11.	[r]	voiced alveolar flap
12.	[ṛ]	voiced retroflex flap
13.	[ṝ]	voiced retroflex nasalised flap

It seems useful to give a further description of this last sound. The point of tongue is raised towards the hard palate and the blade of the tongue falls back on the floor of the mouth after hitting the hard palate while the soft palate is lowered to let some of the air escape through the nasal passage.

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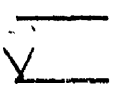
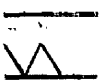
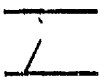
1. These symbols have been used in place of the I.P.A. symbols for typographic reasons.

14.	[y]	voiced palatal non-syllabic vowel
15.	[i]	close front unrounded long (vowel)
16.	[e]	half close front unrounded long

17. [ɛ] half open front unrounded long
18. [a] open neutral unrounded long
19. [o] half close back rounded long
20. [u] close back rounded long
21. [ɪ] half close front centralized short
22. [ʊ] half close back centralized short
23. [ə] half open central short
24. [ɪ̃] half close front short nasal
25. [ʊ̃] half close back centralized short nasal
26. [ə̃] half open central short nasal
27. [ĩ] close front unrounded long nasal
28. [ẽ] half close front unrounded long nasal
29. [ɛ̃] half open front unrounded long nasal
30. [ã] open neutral unrounded long nasal
31. [õ] half close back rounded long nasal
32. [ũ] close back rounded long nasal
33.  a low level pitch
34.  a mid level pitch
35.  a high level pitch
36.  a low falling pitch
37.  a low falling pitch followed by a mid rising pitch on the same syllable.
38.  a low falling pitch followed by a high rising pitch on the same syllable.

39.  a low fall in pitch followed by a mid rise and a low fall on the same syllable.

40.  a mid rising pitch

41.  a mid rising pitch followed by a low falling pitch on the same syllable.

42.  a high rising pitch

43.  a mid level pitch followed by a low falling pitch on the same syllable.

44.  a low falling pitch followed by a low level pitch on the same syllable.

45. : indicates that the sound represented by the preceding symbol is long.

46. [ ] impressionistic (or general phonetic) transcription.

	Examples	English translation
1.	[jot]	Harness (the horse)
2.	[ləd:ə]	Load
3.	[mut]	Shut
4.	[khed]	Play
5.	[cəl]	Walk
6.	[ja]	Go away
7.	[so]	Go to sleep
8.	[lərɑz]	Tremble
9.	[jos]	Be angry
10.	[məl]	Rub

	Examples	English translation
11.	[mar]	Kill
12.	[saɾ]	Burn
13.	[sɑ̃ɾ̃]	Listen
14.	[aya]	He came
15.	[pi]	Drink
16.	[de]	Give away
17.	[kɛ]	Speak
18.	[ja]	Go away
19.	[so]	Go to bed
20.	[su]	Deliver (a baby)
21.	[mɪla]	Mix
22.	[mœɾ]	Turn round
23.	[məl]	Rub
24.	[gɪ̃ɾ̃]	Count
25.	[sɑ̃ɾ̃]	Listen
26.	[bəɾ̃ã]	Make
27.	[jĩɾ̃ã]	To live
28.	[dɛ̃ɾ̃ã]	To give away
29.	[kɛ̃ɾ̃ã]	To speak (or to tell)
30.	[gãɾ̃ã]	To sing
31.	[sõɾ̃ã]	To sleep
32.	[sũɾ̃ã]	To deliver (a baby)
33.	[kœdːə]	Jump

CHAPTER 11.

THE VERBAL PHRASE AND THE VERBAL WORD.

2.00 Introductory.

This chapter deals with the verbal phrase, its constituents and the criteria for delimiting the verbal phrase.

2.01 Sentence.

In Hindko all sentences, with certain exceptions (2.111) are verbal. A sentence may comprise (i) a verbal phrase only or (ii) a verbal phrase and a non-verbal phrase, e.g.

(i) a.[ja] Go away

b.[cala jasã] (I) will go.

	Non-verbal	Verbal	
(ii)	a.[roṭ:i	kha]	Eat the bread.
	b.[o e kəm	kər si]	He will do this job.

2.02 The phrase.

It seems feasible that before proceeding to give an account of the verbal phrase in Hindko, a brief description of the term "phrase" , as used here should be given. The term phrase is used in this thesis "for a unit that either comprises two or more word units (two-word phrase, three-word phrase etc,.) or itself is co-extensive with a single word unit (one-word phrase).

Thus as compared with the word, the phrase is as long or longer. As compared with the clause, however, the phrase may be co-extensive with the clause (one-word clause), or a clause may comprise two or more phrases (two-phrase clause, three-phrase clause etc.).

2.10 THE VERBAL PHRASE.

The verbal phrase is characterised by the presence of the verbal word.[1] As this characteristic is exclusive to the verbal phrase it can be used as a criterion to distinguish the verbal phrase from the non-verbal phrase.

2.11 Delimiting the verbal phrase.

As the verbal phrase consists of a whole number of words the boundaries of the phrase coincide with the boundaries of the word. If the verbal phrase is co-extensive with the word the phrase boundaries coincide with the word. If, however the phrase contains more than one word the phrase boundary begins with the beginning of the first word and ends with the end of the last word in the phrase.

2.12 Place of the verbal phrase.

With certain exceptions[2] the verbal phrase is final in the clause or the sentence, e.g.

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1. For the definition of the verbal word see 2.2

2. see 2.121

Non-verbal	Verbal	
[o bəzar	jasi]	He will go to the market.
[tu xat	lɪtk:ha kərsẽ]	You will write a letter.
[o ɪt:he	sõnda əya]	He used to sleep here.

2:121 Exceptions

It was stated earlier that with certain exceptions, all Hindko sentences are verbal and that the verbal phrase is final in a clause or sentence. The exceptions are given hereunder.

2.1211 Sentence without verbal phrase

The example of this kind of sentences are situational sentences, such as (i) an answer to a question or (ii) an answer to a call, (iii) a call or (iv) an exclamation.

(i)	Question:	[o ke khasɑn]	What will they eat?
(	Answer:	[əm]	Mangoes.
(ii)	Call:	[oe səlim]	O Saleem.
	Answer:	[ji]	Yes (sir or madam)
(iii)	[oe səlim]		O Saleem.
	[wa wa]		Wonderful.

2:1212 Sentences in which a non-verbal phrase or phrases follow the final verbal phrase.

This type of sentence occurs in a situation where the speaker having finished his or her sentence suddenly realises that something which he should have said earlier

was left unsaid, so he adds the additional material to the sentence. This part of the sentence is said on a low level pitch. As such all the non-verbal phrases which follow the final verbal phrase in a sentence are characterised by the low level pitch, e.g.

Non-verbal	Verbal	Non-verbal
1. [tu dəftɑr	ãWĩ	te səlim tu bi]
2. [bot əcːhi	e	kʈtab]
3. [səlim fel	hogʈa e	bʈcara]

1. You should come to the office, and Saleem you as well.
2. Very good is, the book.
3. Saleem has failed (the examination), poor fellow.

2.13 The constituents of the verbal phrase.

A verbal phrase may contain one or more examples of the verbal word, up to a maximum of three words. The verbal phrase may, therefore, be classified as one-word phrase, two-word phrase, and three-word phrase according to the number of words it contains.

This section gives a brief description of these three types of phrases and their constituents.

2.131 ONE-WORD PHRASE (M)[1]

A one-word verbal phrase comprises a Main Verb; e.g.

[tu (ja)][2] You(s) go away.

[tɑsi (jawo)] You go away.

2.132 TWO-WORD PHRASE (M+O or M+A)

A two-word verbal phrase may comprise either (i) a Main Verb and an Operator Verb (M+O) or (ii) a Main Verb and an Auxiliary Verb (M+A); e.g.

(i) [tu (a ja)] You(s) do come.
M O

(ii) [o (aya əya)] He had come.
M A

2.133 THREE-WORD PHRASE (M+O+A or M+O+O)

A three-word phrase may comprise either (i) a Main Verb, an Operator Verb and an Auxiliary Verb or (ii) a Main Verb and two Operator Verbs; e.g.

(i) [o (ja səkdi e)] She can go away.
M O A

(ii) [o (a jaya kəre)] He/she should come (here).
M O A

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1. For the classification of the verbal word as Main Verb, Operator Verb, and Auxiliary Verb see 2.32.

2. The relevant piece in the examples has been enclosed in round brackets.

Criteria for delimiting the word.

Though the purpose of this thesis is not to investigate, in any detail, the phonological and grammatical criteria upon which the establishment of the word as an entity is based, what follows gives some of the most obvious phonological features about the word.

In order that the limits within which the thesis is to be confined may be precisely drawn, it is essential to know the boundaries of the verbal phrase. But it is important at the phonological level to define, at least in some measure, the word boundaries.

This section is introduced to give an account of the word boundaries. As far as the spoken form of the language is concerned, there are some obvious phonetic features that characterise the junction of syllables. Those features are used here as criteria for word boundaries. They are stated here as criteria of one or the other of the two terms of a junction system: Inter-word and Intra-word. "Inter-word junction is so named as marking the boundaries between words and, therefore, also such super a word units as phrase, clause, and sentence where boundaries of such units coincide with those of the word, i.e. initially and finally in these units. Intra-word junction is so named on the other hand, as marking the absence of the word boundaries and, therefore,

absence of phrase, clause, and sentence boundaries."

(R.K. Sprigg, 1968, p p)

In the phonetic transcription the Inter-word junction is indicated by a space in successive syllables, whereas Intra-word junction is indicated by absence of space between successive syllables.

The criteria of Inter-word Junction (2.21 and Intra-word Junction (2.22) are stated below.

2.21 Inter-word Junction.

The criteria of Inter-word Junction consist of various phonetice features and sequence of these features, that can be used to demarcate the word. The word, as far as this type of junction is concerned, is considered whether it is at the beginning or end of phrase or within the phrase. In cases where the word boundaries are co-extensive with the beginning or ending of a phrase, only the initial or the final syllable will be of interest, but where a word occurs within a phrase, both syllables, the initial and the final, will be considered. The criteria of Inter-word Junction will enable us to decide as to which word a particular syllable belongs to.

These criteria are stated under the following headings:-

(i) Word-initial features. These criteria are drawn from the syllable initial features of an initial syllable of the word and mark the beginning of the word. These criteria do not

need to be related to any other syllable of a preceding word, if there is any such word in the phrase, and are valid in their own right without reference to any such syllable (2.211).

(ii) Word-final features. These criteria are drawn from a single syllable; i.e., the final syllable of the word, and are valid independently of features characterising any of the initial syllables of a following word, if there is anysuch word, and are valid without reference to any such syllable. (2.212);

(iii) Criteria consisting of phonetic features drawn from both syllables of the junction (2.213);

2.211 Criteria of word initial features.

The following two combinations of phonetic features are markers of word-beginning. It should however, be pointed out here that though the presence of these features marks the beginning of a word, their absence does not necessarily mark absence of word-beginning. That is to say that there are also other possible features at the beginning of word but since they are not confined to this position alone, they cannot be used as a criterion.

These criteria of word-initial features are drawn from the syllable initial features of initialsyllable of the junction and are, therefore, appropriate to the beginning of an utterence as well as a junction between words. These features which are cited as criteria of word-initial, may also be preceded

by silence or by an utterance of another speaker.

2.2111 Glottal friction [h] e.g.

[karim (har) ja si] Kareem will be defeated

[hɪna (hasdi) pʊi əi] Hina was laughing.

2.2112 Occlusion combined with Tone 1[1], e.g.,

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1. For Tonal classification see Chapter V.

[o kop (pəre′)] He/she should fill the cup.

[mən:e ken:ũ (cəp:a′)əya] I had caught the ball.

2.212 Criteria of word-final features.

The following combinations of phonetic features are markers of word-ending. It seems advisable to point out here that though the presence of these features marks word-finality their absence does not necessarily mark absence of word-ending. That is to say that there are also other possible features at the ending of word; but since they are not confined to this position alone, they cannot be used as a criterion.

These criteria of word-final features are drawn from the final syllable of the junction and are, therefore, appropriate to the ending of an utterance as well as a junction between words. These features may also be followed by silence or by an utterance of another speaker.

The following table gives combination of phonetic features which are markers of word-ending:

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1. For Tonal classification see chapter V.

DESCRIPTION OF FEATURES			PHONETIC SYMBOLS	
	CONSONANT	VOWEL	CONSONANT	VOWEL
I	length	open./half-open./half-close. or nas./non-nas.[1] +length	p: t: ṭ: k: c: b: d: ḍ: g: j:	a ɛ e o u ã ɛ̃ ẽ õ ũ
		close.+ back.	l: m: n:	
II	occ. + length + non-ret.	cent. + non-nas. + short.	p: t: k: c: b: d: g: j:	ə
III	glide + palat.	half-open. + length + non-nas.	y	ɛ
IV	vocalic + labio-vel.	half-close. + length + nas.	w̃	ẽ
V	flap + ret. + nas.	open./half-open./half-close. +nas. + length	r̃	ã ɛ̃ ẽ õ

1: For abbreviations see page 60.

e.g.

I	1	[kəp:a]	2	[kət:ɛ]	3	[pə$\underline{t}$:e]
	4.	[cɔk:o]	5.	[al:u]	6	[ləb:ã]
	7	[mən:ẽ]	8	[mãn:ɛ̃]	9	[man:õ]
	10	[khen:ũ]				
II	1	[kəp:ə]	2	[nəc:ə]		
III	1	[ayɛ]				
IV	1	[ãw̃ẽ]				
V	1	[kñã$\underline{r̃}$ã]	2	[kã$\underline{r̃}$ɛ̃]		
	3	[gã$\underline{r̃}$ẽ]	4	[jã$\underline{r̃}$õ]		

2.2122 Pause [-------]

A pause can also be stated as one of the criteria for word-ending. A pause in the course of utterance or between utterance coincides with word-ending and can, therefore, be treated as a word-final marker, e.g.

[o ãnda -------]	Had he come -------
[əgɑr o awe ta -------]	If he comes -------
[o aya hoya e -------]	Has he come or -------

2.2123 Criteria drawn from both syllables of the junction.

The following criterion (2.21231) establishes the two syllables concerned as being in Inter-word junction and therefore as belonging to different words: a word boundary runs between them.

2.21231 Criterion based on a syntagmatic relationship between vowels of both syllables of the junction.

There is a kind of syntagmatic relationship between vowels of various syllables of a word. Certain vowels in a word preclude the possibility of there being certain other vowels in that word. When, therefore, vowels of two syllables in junction are incompatible with each other as regards membership of the same word, this sequence of vowels may be cited as a criterion of Inter-word junction.

The following table gives vowels which do not occur in the same word:

First Syllable		Second Syllable	
Close. + back. + length	[u]		
Half-close. + "	[o e]	Close. + back. + length	[u]
half-open. + "	[ɛ]		
Partial voicelessness	[hi hu he ho hɛ ha hɤ hɒ hə]	Partial voicelessness	[hi hu he ho hɛ ha hɤ hɒ hə]

2.22 Intra-word Junction.

The criterion of Intra-word Junction comprises sequences of phonetic features that serve to establish the two syllables concerned as being in Intra-word Junction relationship with each other and therefore as members of the same word.

2ː22 Criterion of length in consonant[1]ː

Where a long consonant occurs at the junction of two syllables both the syllables concerned are in intra-word junction and must therefore, be assigned to the same word; e.g. [sɒtːa kəpːi].

1. The length in a consonant is indicated by placing [ː] after the consonant concerned.

2.3 Criteria for establishing the verbal word.

A verbal word (except an Auxiliary verb) may take one of the following inflexions; any word exemplifying any of the range of inflexions given below, must, therefore, be identified as a verbal word:-

1. i 2. e 3. ɛ 4. a 5. o 6. ẽ 7. ã
8. iẽ 9. iã 10. õn 11. di 12. de 13. da 14. diã
15. deo 16. nĩ 17. nẽ 18. nã 19. r̃ĩ 20. r̃ẽ 21. r̃ã
22. r̃ĩã 23. s

e.g.

1. [nəc:i] 2. [nəc:e] 3. [nəc:ɛ]
4. [nəc:a] 5. [nəc:o] 6. [nəc:ẽ]
7. [nəc:ã] 8. [nəc:iẽ] 9. [nəc:iã]
10. [nəc:õn] 11. [nəcdi] 12. [nəcde]
13. [nəcda] 14. [nəcdiã] 15. [nəcdeo]
16. [nəc:ənĩ] 17. [nəc:ənẽ] 18. [nəc:ənã]
19. [kñãr̃ĩ] 20. [kñãr̃ẽ] 21. [kñãr̃ã]
22. [kñãr̃ĩã] 23. [khas]

2.31 Classification of the Verbal Word.

A verbal word may be classified as a Main Verb, Operator Verb or an Auxiliary Verb. This section gives a brief description of these different kinds of Verbal Words.

2.311 Main Verb.

The Main verb may be defined as a verbal word that can occur on its own in a phrase. In a compound construction the Main Verb always occupies the first place. e.g.

Non-verbal phrase.	verbal phrase.
1. [mãnɪẽ e kəm	(kitɪa)əya][1]
2. [o e kəm	(kər) sakda əya]
3. [tu e kəm	(kər)]

1. I had done this job.
2. He could do this job.
3. Do this job.

2.312 Operator Verb.

In a compound Verb the second element is one of a restricted class of verbal words which are called Operators. The difference between the Main verb

1. Examples of the Main verb are enclosed in round brackets.

and the Operator verb is that an Operator verb cannot occur on its own in a phrase, whereas the Main verb can. The second distinction between these two types of verb is that the Operator verb always occupies the second place in a compound construction whereas the Main verb always occupies the first place in such constructions. The Operator verb, like the Main verb, has the potentiality of taking any of the range of inflexions stated above (2.21) e.g.

	Non-verbal phrase	Verbal phrase
1.	[oɯɾt:he	a (səkda) e][1,2].
2.	[o ɾt:ñõ	cəla (ja) si]

1. He can come here.
2. He will go away from here.

2.3/3 The Auxiliary Verb

The type of verbal word which is used to form tenses is named here the Auxiliary Verb. The members of this class of verbal word are restricted in number. In a compound construction where all the three types of verbal word (Main, Operator and Auxiliary) occur the Auxiliary verb always occupies the last place in such construction e.g.

---

1. Examples of Operator Verbs are enclosed in round brackets.
2. See Appendix (IV) for a list of operators.

Non-verbal	Verbal
1.[o	caldi rɛ̃ndi (e)][1,2]
2.[o	cəldi rɛ̃ndi (əi)]
3.[o	cəla kər (si)]

1.She keeps on walking.

2.She used to walk.

3.She will be walking.

The Auxiliary verbs, unlike Main verbs and Operator verbs, do not have the potentiality to accept any range of inflexions stated in 2.21 above.

1.Examples of Auxiliary verbs are enclosed in round brackets.

2.These are the third person feminine singular forms. For other forms see Appendix V.

CHAPTER III

Tone

3.00 Introductory

Tone has been variously regarded as the property of either a syllable (Pike) a word (Abercrombie) or a group of words (Jensen).

Abercrombie[1] makes a distinction between tone and intonation as follows:

> Pitch fluctuations in its linguistic functions may conveniently be called speech melody.....
>
> The linguistic functions of speech melody are very varied, but of two fundamentally different kinds. In one case, the function of the speech melody patterns is to be part of the structure of the sentences, in the other case their function is to be part of the structure of words. In the former case the patterns are called intonation and in the latter case they are called tone.....
>
> Tone is speech melody when it is a property of the word, while intonation is speech melody when it is a property of the sentence (D. Abercrombie, 1967, pp 1045).

Pike makes the following observations:

> "A tone language may be defined as a language having lexically significant, contrastive but relative pitch on each syllable...

So defined each syllable of a tone language carries at least one significant pitch unit. Most frequently there is one to one correlation between the number of syllables and the numbers of tonemes, in any specific utterance.

Tone languages may have monosyllabic or disyllabic (or trisyllabic or so on) words and morphemes. A disyllabic word has two syllables and at least two tonemes...." (K. Pike, 1948, pp 3, 4).

Kloster-Jensen's views are as follows:
" 53: The tonemes can be demonstrated to be realized in all non-oxytone and therefore increase their segmental span as the number of stressed syllables is reduced in fluent speech, wherefore they may as well be considered as typical of stress groups without of course therefore belonging to the intonational system and no longer characterising the word form as such. Shifting of stress often involves tonemic variation (1.5).

24: These considerations extenuate the view that tonemes are word accent. They could be more properly characterized as <u>word group accents</u> or measure

measure features..... but recognition of tonemic contrast in word groups helps to realize that tonemicity in Scandinavian sometimes differentiates longer units than word forms (example "gå hjem") with the consequences that its function borders on or encroaches upon that of intonation. (M. Kloster-Jensen, 1951, p.24)

Various studies of Panjabi consider tone to be a property of the word. "The position of tone in Panjabi is significant in a word" (K.C.Bahl, 1957, p.157). "It is important to note that it is the word, as a unit, including both stressed and unstressed syllables that is taken to be affected by the pitch distinctions (and hence tone) ..." (S.S. Joshi, 1970, p. 22). Gill and Gleason have also described tone to be related to the word in Panjabi (Gill and Gleason, 1963, p. 48).

The view taken in this thesis is that whether tone is a property of the syllable, the word or group of words depends upon the language under study. So far as Hindko is concerned tone should be regarded to be a property of the phrase.

The following examples are given to illustrate the first tones as applying to the phrase:

S.No	Examples		Intonational Class[2]	Grammatical Category
	Verbal phrase[1]			
	Main verb	Operator/ Auxiliary		
1.	[cin:i kol′	de]	F	Imperative, non-causative
2.	[bua khol	de]	"	"
3.	[o pərá	səkdɛ]	L	Declarative, causative
4.	[o sɑ̃a	səkdɛ]	"	"
5.	[o mɑ̃n:ɑ̃ pərkɑ̃ndiɑ̃′	əyɑ]	"	"
6.	[o but cɑmxɑ̃ndiɑ̃	əyɑ]		

1. For classification of the verbal words as Main verb, Operator and Auxiliary see 2.23.
2. For the Intonational classification see chapter IV.

1. Dissolve the sugar.

2. Open the door.

3. He can teach.

4. He can make (him\her) sleep.

5. They (F) used to excite me.

6. They (F) used to shine the shoes.

It should be noted that examples 1 and 2 both belong to F intonational class; they both are imperative and causative and both contain the Main verb and an Operator. But they have a different pitch pattern from each other. In example 1 the Main verb has a low fall and a mid rise on the same syllable and the Operator has a mid level and a low fall on the same syllable. In example 2 on the other hand, the Main verb has a mid level and the Operator has a low fall in pitch.

Similarly examples 3 and 4 both belong to intonational class L, both are declarative and causative and both consist of a Main verb and an Operator. But their pitch pattern differs from each other. In example 3 the main verb has a low fall on the first syllable and a mid rise and a low fall on the second syllable and the Operator has a succession of two low levels in pitch. In example 4 on the other hand, the Main verb has a succession of two mid levels in pitch and the Operator has a low fall on the first syllable and a low level in

pitch on the second syllable.

Finally examples 5 and 6 both belong to intonational class L and both are Declarative and Causative and both consist of a Main verb and an Auxiliary and their pitch pattern is different from each other. In example 5 the Main verb has a mid level on the first syllable, a low fall and a mid rise on the second syllable and a succession of two mid levels in pitch on the third and the fourth syllables; and the Auxiliary has a low fall on the first syllable and a low level in pitch on the second syllable. In example 6 on the other hand, the main verb has a succession of two mid levels on first and second syllables, a low fall on the third syllable and a low level in pitch on the fourth syllable and the Auxiliary has a succession of two low levels in pitch.

It should be clear from the above illustration that the distinction of pitch pattern applies not only to the first word of the Verbal phrase (i.e. the Main verb) but also to the remaining words of the phrase (i.e. the Operator and the Auxiliary). In other words the tone applies to the phrase as a whole.

3.10 Tonal System.

The difference in pitch patterns of the above pairs of examples (and other similar pairs) needs to be explained in terms of tone in relation to the verbal phrase.

Examples 1, 3 and 5 belong to one type of tonal phrase whereas examples 2, 4 and 6 belong to the other type of tonal phrase.

In order to deal with the difference in pitch patterns stated above a two-term tone system has been stated for the verbal phrase. The two terms of the system are named Tone 1. (T1) and Tone 2. (T2).

I have preferred to mark the two tones by number instead of attaching a descriptive label to each tone. My reasons for doing so are that each tone has various phonetic exponents and it is not possible to attach a descriptive label such as falling, rising, or level, etc., to a particular tone. Although a fall in pitch in the ultimate syllable of a phrase is the most common exponent of Tone 1 but there are certain contexts where the exponent of Tone 1 may be a level or a rising pitch. Similarly on the other hand, although a level pitch on the ultimate syllable of a phrase is the most common exponent of Tone 2, but it is not the only exponent of this Tone.

3.11 The Phonetic Exponents.

The phonetic exponents of T1 (3.111) and T2 (3.112) are as follows:-

3.111 T1

The Phonetic exponents of T1 are stated under three headings:

1. Pitch features (3.1111)

2. Phonation features (3.1112)

3. Phrase initial features (3.1113)

3.1111 Pitch features

The pitch features of T1 have three exponents, one for each term of the Intonational System (F,H,L).

3.11111 The exponents relating to the F term of the

of the Intonational System.

1. M
A low fall-mid rise-low fall in pitch, e.g. Tgm. 18

[cin:i (M kol′)]^{1,2}

\/\

2. M O
A mid level, a low fall-mid rise a mid level-low fall in pitch

e.g. Tgm. 21

M O
[e gəl (pɷla′ de)]

— \/ ¬

3. M O
A mid level, a low fall-mid rise a fall in pitch, e.g.

[cɷp rɛ te gəl (M pɷla′ O de)]

— \/ \

4. M O O A
A low fall-mid rise a mid level, a low fall in pitch, e.g.

[wəd:a ho si te (M pɷl′ O ja A si)]

\/ — \

5. M
A low fall-mid rise, a low fall in pitch, e.g.

[mɑ̈ tɵwɑ′ ke nɑ̈ (M tɵwɑ′)]

\/ \

---

1. The relevant examples have been enclosed in round brackets.
2. Letters M, O, and A on the top of pitch description and words in the examples indicate that the particular description relates to or the word concerned is, a Main verb, Operator, or Auxiliary respectively.

6. M
A mid level, a low fall-mid rise, a low fall in pitch, e.g.

[mɛ̃ ɔ̃n:ɑ̃ kəyɔ̃ (M parkəwa′)]

— ∨ \

English translation:

1. Dissolve the sugar.
2. Forget it.
3. Keep silent and forget it.
4. He will forget it when he grows older.
5. Should I wash my face or not?
6. Why should I excite him/her.

3.11112 The exponents relating to term H of the Intonational System.

1. M
A low fall-mid rise, a high rise in pitch, e.g. Tym. 10

[mɑ̃ (tɔwa′)]

∨ /

2. M
A mid level, a low fall-mid rise, a high rise in pitch, e.g.

Tym 12

[mɛ̃ ɔ̃n:ɑ̃ (pərkəwa′)]

— ∨ /

3. M O A
A low fall a low level, a mid rise a high rise in pitch, e.g.

[kəra′ M (pər′ O gta A e)]

\ _ /

4. M
A mid level, a low fall-mid rise, a mid level
O A
a high rise a high level in pitch, e.g.
[o tə̃n:ũ (pə̲raya′ kə̲r sə̲́)]

5. M
A low fall-high rise in pitch, e.g.
M
[cin:i (kol′) te cəla ja]

English translation:

1. Should I wash my face?
2. Should I excite him/her?
3. Has the pigger been filled?
4. Will he be teaching you?
5. Dissolve the sugar and go away.

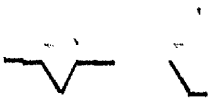
3.11113 The exponents relating to the term L of the Intonational System.

1. M
A low fall, mid rise-low fall, a low level in pitch, e.g.
M
[mə̃n:ɛ̃ ə̃n:ũ (pə̲rkayɛ′)]

2. M
A mid rise-low fall, a low level in pitch, e.g.
M
[o (tə̲tʂ̲hɛ′)]

3. M: A mid level, a low fall-mid rise, a mid level. A: a low fall-low level, e.g.

[o mən:ũ (pərkãndi′ e)]

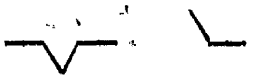


4. M: A low fall-mid rise. O: a low fall, a low level. A: a low level in pitch e.g.

[o kəpre (to′ səkdi e)]

5. M: A mid level, a low fall-mid rise, a mid level. A: a low fall, a mid level in pitch, e.g.

[otən:ũ (pərãnda′ əya)]



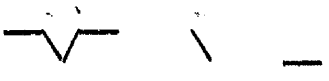
6. M: A low fall. O: a succession of two levels. A: a low level

In pitch, e.g.

[o jərmãn:ã (pər′ səkda e)]

7. M: A mid level, a low fall-mid rise, a mid level. O: a low fall. A: a low level in pitch, e.g.

[o (paraya′ kər si)]



English translation:

1. I excited him/her.

2. He fell down.

3. She excites me.

4. She can wash the clothes.

5. He used to teach you.

6. He can pay the fine.

7. He/she will be teaching.

3.1112 Phonation.

A constricted voice quality in the first word (and hence the only word of a one-word phrase) and a non-constricted voice quality in the remaining words of the phrase is the characteristic phonetic exponent of T1 phrase.[1]

3.11121 Criterion

As the phonation feature stated above (3.1112) is exclusive to the T1 phrase it can be used to distinguish this type of phrase from the T2 phrase, which is characterised by a non-constricted voice quality of the whole phrase.[1]

---

1. See 3.11221

3.1113 Phrase initial features

The following combination of phrase initial features is a phonetic exponent of T1:

Occlusion+ voicelessness [p, t, t̲, k, c]

e.g.

[pən′ tʈk:ə′, t̲ɛ′, kol′, cəl′]

English translation:

Break, Push, Falldown. Dissolve. Bear.

3.112 T2

The phonetic exponents of T2 are also stated under three headings:

1.Pitch features (3.1121)

2.Phonation (3.1122)

3.Phrase initial features (3.1123)

3.1121 Pitch features.

T2 also has three exponents one for each term of the Intonational System F,H,L).

3.11211 Exponents relating to term F of the Intonational System.

1. M
A mid rise-low fall in pitch, e.g.

M
[bɷa (khol)]

2. M
A succession of two mid levels O
a low fall in pitch, e.g.

M O
[pɷkã̄:ã́ (sɷja de)]

Tjm. 20

3. M O
A low level, a mid rise a low fall in pitch, e.g.

[rot:i lɛ te ȭn:ũ̄ (khɷa de)]

4. M O A
A mid level a low fall a low level in pitch, e.g.

M O A
[kã̄nji ləg si te bɷa (khɷl ja si)]

5. M
A mid level a low fall in pitch, e.g.

M
[mɛ̄ jaʊ̃a ke nã̄ (jaʊ̃a)]

6. M
A succession of two levels, a low fall in pitch, e.g.

[mɛ̄ but kəyʊ (cəmxã̄ʊ̃a)]

English translation:

1. Open the door.

2. Blow the balloon.

3. Take the bread and feed him/her.

4. The door will open only when the key fits in.

5. Should I go or not?

6. Why should I shine the shoes?

3.11212 Expõnents relating to term H of the Intonational System.

1. M
A mid level, a high rise in pitch, e.g.

M
[mɛ̃ (jãwã)]
_/

2. M
A mid level, a high rise, a high level in pitch, e.g.

M
[mɛ̃ but (cəmxãwã)]
_ / —

3. M O
A mid level a mid level, a high rise in pitch, e.g.

M O
[cac:a (mər gtɛ)]
_ _ /

4. M O
A succession of two mid levels, a high rise, a high level a high level in pitch, e.g.

M O A
[o tãn:ũ (sətaya kər si)]
_ _ / — —

5. M
A mid level-high rise in pitch, e.g.

M
[bɒa (khol) te cəla ja]
_/

English translation:

1. Should I go?

2. Should I shine the shoes?

3. Has the uncle died?

4. Will he be teasing you?

5. Open the door and go away?

3:11213 Exponents relating to term L of the Intonational system.

1. M
A low fall-mid level in pitch, e.g.

M
[e admi (e)]
_

2. M
A low fall, a mid level in pitch, e.g.

M
[o (sɑt:ɛ)]
\ —

3. M A
A succession of two mid levels, a low fall a low level in pitch, e.g.

M A
[o but (cəmxãndi e)]
— —\ —

4. M O A
A low fall a succession of two levels a low level
(i.e. low levels)
in pitch, e.g.

M O A
[o (ro səkdi e)]
\ — — —

5. M
A succession of two mid levels, a low fall

A
a succession of two low levels in pitch, e.g.

M A
[o mə̃n:ɑ̃ (sətə̃nda əya)]

— — \ — —

6. M A
A mid level a low fall, a low level a low level in pitch, e.g.

M O A
[o e kəm (kər səkda e)]

— \ — —

7. M
A succession of two mid levels, a low fall

O A
a low level a low level in pitch, e.g.

M O A
[o tə̃n:ɑ̃ (sətaya kər si)]

— — \ — —

English translation:

1.This is a man.

2.He went to sleep.

3.She shines the shoes.

4.She can weep.

5.He used to tease me.

6.He will be teasing you.

3.1122 Phonation

A non-constricted voice quality of the whole phrase is the characteristic phonetic exponent of T2 phrase.

3.11221 Criterion

As the phonetic feature stated above(3.1122) is exclusive to T2 it can be used to distinguish this type of phrase from T1 phrase.The following table will illustrate this:

	T1 phrase			T2 phrase		
	Main verb	Operator Auxiliary		Main Verb	Operator	Auxilary
One-word phrase	Constricted			Non-constricted		
Two-word phrase	"	Non-constricted	Non-constricted	"	Non-constricted.	Non-constricted
Three-word phrase	"	"	"	"	"	"

3:1123 Phrase initial features.

The following combinations of phrase initial features are the phonetic exponents of T2 phrase:

	Description of exponents	Phonetic symbols.
1.	Occlusion + voicelessness, vowel + partial voicelessness	[phe thɔ thɛ kho cho]
2.	Occlusion + voicelessness, vowel + voice	[pi to ta kə ci]
3.	Occlusion + voice, vowel + voice	[bo do də ga ja]
4.	Friction + voicelessness, vowel + voice	[so sə]
5.	Nasality + voice, vowel + voice	[ma nə]
6.	Flap +voice, vowel + voice	[ro]
7.	Laterality + voice, vowel + voice	[lə]
8.	Vowel + voice,	[a ə ɔ]
9.	Vocalic + labio-vel.	[w]
10.	Vocalic + voicelessness	[h]

e.g.

1. [phe thɔkːə thɛr khol chor]
2. [pi tol tal kər cir]
3. [bol dor dəkːə ga ja]
4. [so sərma]
5. [mar nəcːə]
6. [ro]
7. [lər]
8. [akɔr ətka ɔda]
9. [war]
10. [har]

CHAPTER IV

INTONATION

4.00 Introductory.

My interest in intonation is limited to the part it plays in relation to the verbal phrase; Since the verbal phrase is the clause final phrase (2.12), whatever intonational features characterize the end of the clause must also characterize the verbal phrase.

In order to state those intonational features which help to delimit some such units as the clause within utterances two main type of clausal patterns have been used: one type of pattern terminates the sentence final clause and the other type terminates the sentence non-final clause. The possibilities for the sentence final clause are different from the sentence non-final clause. The sentence non-final clause invariably terminates with a high rise in pitch irrespective of grammatical category and type of sentence it occurs in, whereas the sentence final clause may terminate with a low fall, a high rise, a high level or a low level in pitch depending on grammatical category and type of sentence it occurs in. The following examples will illustrate this:

S.NO	SENTENCE NON-FINAL CLAUSE	SENTENCE FINAL CLAUSE	
1.	[pɛse (de)	te cəla ja][1]	
2.	[kəpre (to′)	te cəla ja]	
3.	[mɛ̃ (jæwæ)	ke næ jæwæ]	
4.	[mʊ (tʊwæ′)	kke næ tʊwæ′]	
5.	[o bɔ̃a (khol si)	te cəla ja si]	
6.	[o cin:i (kol′ si)	te cəla ja si]	
7.		[bɔ̃a (khol)]	
8.		[cin:i (kol′)]	Tgm. 18
9.		[mɛ (jæwæ)]	Tgm. 11

1.Relevant examples have been enclosed in round brackets.

10. [mũ (tõwã′)]

11. [o bɑa(khol sək si)]

12. [o cin:i (kol′ sək si)]

English translation:

1. Give the money and go away.
2. Wash the clothes and go away.
3. Should I go or not?
4. Should I wash my face or not?
5. He will open the door and go away.
6. He will dissolve the sugar and go away.
7. Open the door.
8. Dissolve the sugar.
9. Should I go away?
10. Should I wash my face?
11. He will be able to open the door.
12. He will be able to dissolve the sugar.

It should be noted that final syllable of the sentence non-final clause (examples 1 to 6 above) has invariably a high rise irrespective of the tonal class of the verbal phrase[1] it contains and the grammatical type of the sentence. On the other hand the sentence-final clause

1. For Tonal classification of the verbal phrase see Chapter III (examples/...

(examples 7 to 12 above) has different pitch possibilities in the final syllable. Examples 7 and 8 end in a low fall in pitch, examples 9 and 10 end in a high rise in pitch, and examples 11 and 12 end in a low level in pitch.

4.10 Intonational System

In order to deal with the two types of clausal patterns stated above, a Two-term Intonational System is stated. Two terms of the system are named U (from ultimate) and non-U ($\bar{U}$).

4.11 Phonetic exponents.

The phonetic exponents of $\bar{U}$ (4.111) and U (4.112) are as follows:

4.111 $\bar{U}$

1. M
A high rise in pitch, e.g.

M
[(bol) te cəla ja]
/

2. M
A low fall-high rise in pitch, e.g.

M
[cin:i (kol') te cəla ja]
V

3. M
A mid level, a high rise in pitch, e.g.

M
[mɛ̃ (jãwã) ke nã jãwã]
_ /

4. M
A low fall-mid rise, a high rise in pitch, e.g.

M
[mɑ̃ (tʊ̃wɑ̃′) ke nɑ̃ tʊ̃wɑ̃′]

\/ /

5. M A
A succession of two mid levels a high rise in pitch, e.g.

a) [o pɔkɑ̃n:ɑ̃′(sɔ̃ja M si A) te cəla ja si]

— — /

6. M A
A mid level, a low fall-mid rise a high rise in pitch, e.g.

[o gəl(pɔla′ M si A) te cəla ja si]

— \/ /

English translation:

1. Speak and go away.

2. Dissolve the sugar and go away.

3. Should I go or not?

4. Should I wash the face or not ?

5. He will blow the balloon and go away.

6. He will forget about the matter and go away.

4.112 U

1. M
A low fall-mid rise-low fall in pitch, e.g. Tgm. 18

M
[cin:i (kol′)]

\/\

2. M
A mid rise-low fall in pitch, e.g.

M
[bøa (khol)]

/\

M 0
3. A mid level, a low fall-mid rise a mid level-low fall in pitch, e.g. Tgm. 21

M 0
[e gəl (pøla′ de)]

— \/ ¬\

M 0
4. A succession of two mid levels a low fall in pitch, e.g.

M 0
[pøkãn:ã′ (søja de)] Tgm. 20

— — \

M 0
5. A mid level, a low fall-mid rise a fall in pitch, e.g. slow

M 0
[cøp rɛ te e gəl (pøla′ de)]

— \/ \

M 0
6. A low level, a mid rise a low fall in pitch, e.g.

M 0
[roṭ:i lɛ te ɑ̃n:ɑ̃ (khøa de)]

_ / \

7. M: A low fall-mid rise; O: a mid level; A: a low fall in pitch, e.g.

[wəd:a ho si te (pɒl′ ja si)]
M O A

\/ — \

8. M: A mid level; O: a mid level; A: a mid level-low fall in pitch, e.g.

[kɒnji ləg si te bɑa (khɒl ja si)]
M O A

— — ¬\

9. M: A mid level, a low fall in pitch, e.g.

[mɛ jəwə ke nə (jəwə)]
M

— \

10. M: A low fall-mid rise, a low fall in pitch, e.g.

[mɑ tɔwə′ ke nə (tɔwə′)]
M

\/ \

11. M: A mid level, a low fall-mid rise, a low fall in pitch, e.g.

[mɛ ɔ̃n:ɑ kəyɔ (pərkəwə′)]
M

— \/ \

12. M: A succession of two mid levels, a low fall in pitch, e.g.

[mɛ but kəyɔ (cəmxəwə)]
M

— — \

13. M
A low fall-mid rise, a high rise in pitch, e.g.

Tgm. 10

M
[mɑ (tʊwɛ′)]
/ ·
\/

14. M
A mid level, a high rise in pitch, e.g.

Tgm. 11

M
[mɛ (jæwɛ)]
— /

15. M
A mid level, a low fall-mid rise, a high rise in pitch, e.g.

Tgm. 12

M
[mɛ ɑ̃n:ɑ (pərkɑ̃w̃ɑ̃′)]
— \/

16. M
A mid level, a high rise, a high level in pitch, e.g.

Tgm. 13

M
[mɛ but (cəmxawa)]
— / —

17. M O
A low fall, a mid rise, a high rise in pitch, e.g.

Tgm. 14

[kəra′ (pər′ gtɛ)]
/
\ /

18. M O
A mid level a mid level, a high rise, in pitch, e.g.

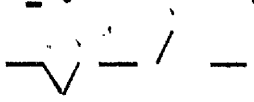
Tgm. 15

M O
[cɑɛ:a (mər gtɛ)]
— — /

19. M
A mid level, a low fall-mid rise, a mid level

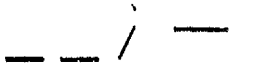
O A
a high rise, a high level in pitch, e.g.

M O A
[o tə̃n:ũ (pəraya′ kər si)]



20. M
A succession of two mid levels, a high rise
O A
a high level a high level in pitch, e.g.

M O A
[o tə̃n:ũ (sətaya kər si)]



21. M
A low fall-low level in pitch, e.g.

M
[e admi (e)]

22. M
A mid rise-low fall, a low level in pitch, e.g.

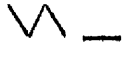
M
[o (tətːhɛ′)]

23. M
A low fall, a low level in pitch, e.g.

M
[o (sɑtːɛ)]

24. M
A low fall, a mid rise-low fall, a low level in pitch, e.g.

[mə̃n:ə̃ ə̃n:ũ (pərkayɛ′)]



25. M
A mid level, a low fall, a low level in pitch, e.g.

M
[mə̃n:ə̃ but (cəmxayɛ)]

26. M
A mid level, a low fall-mid rise, a mid level
A
a low fall-low level in pitch, e.g.

M A
[a mə̃n:ũ (pərkə̃ndi′ e)]
— ∨ — ∖ —

27. M A
A succession of two mid levels, a low fall a low level
in pitch, e.g.

M A
[o but (cəmxə̃ndi e)]
— — ∖ —

28. M O A
A low fall-mid rise a low fall, low level a low level
in pitch, e.g.

M O A
[o kəpre (to′ səkdi e)]
∨ ∖ — —

29. M O A
A low fall a succession of two levels a low level
in pitch, e.g.

M O A
[o (ro səkdi e)]
∖ — — —

30. M
A mid level, a low fall-mid rise, a mid level
O
A low fall, a low level in pitch, e.g.

M O
[o kə̃n:ũ (pəranda′ əya)]
— ∨ — ∖ —

31: M
A succession of two mid levels, a low fall

O
a succession of two low levels in pitch, e.g.

M O
[o kãỹõ (sətãnda əya)]

— — \ _ —

32: M O A
A low fall a succession of two low levels a low level

in pitch, e.g.

M O A
[o kədːo jœrmãnːã (pər′ səkda e)]

\ _ _ _

33: M O A
A mid level a low fall, a low level a low level

in pitch, e.g.

M O A
[o kera kəm (kər səkda e)]

— \ _ _

34: M
A mid level, a low fall-mid rise, a mid level

O A
a low fall a low level in pitch, e.g.

M O A
[o kœdːo (pəraya′ kœr si)]

— \/ — \ _

35: M O
A succession of two mid levels, a low fall a low level

A
a low level in pitch, e.g.

M O A
[o kãỹõ (sətaya kər si)]

— — \ _ _

English translation:

1.Dissolve the sugar.

2.Open the door.

3.Forget about it .

4.Blow the balloon.

5.Keep quiet and forget about it.

6.Take tne bread and feed him/her.

7.He will forget it when he grows older.

8.The door will open when the key fits in.

9.Should I go or not ?

10.Should I wash the face or not?

11.Why should I excite him?

12.Why should I shine the shoes?

13.Should I wash the face?

14.Should I go away?

15.Should I excite him?

16.Should I shine the shoes?

17.Has the pigger been filled

18.Has the uncle died?

19.Will he be teaching you?

20.Will he be teasing you?

21.This is a man.

22.He fell down.

23.He went to sleep.

24.I excited him.

25.I shone the shoes.

26.She excites me.

27.She shines the shoes.

28.She can wash the clothes.

29.She can cry.

30. Whom did he teach?

31. Why did he tease (him/her)?

32. Can he pay the fine?

33. What job can he do?

34. When will he be teaching ?

35. Why should he be teasing (him/her) ?

4.1121 Sub-system

It will be seen from the phonetic exponents of U (4.112) that (i) that examples 1 to 12 terminate with a low fall in pitch (ii) examples 13 to 20 terminate with a high pitch (either level or rising) and examples 21 to 35 terminate with a low level in pitch.

In order to deal with these differences in pitch a three-term prosodic sub-system is stated for U. The three terms of the sub-system are named (i) F (from fall, as fall in the final syllable is the characteristic feature of this term), (ii) H (from high, as a high pitch in the final syllable is the characteristic feature of this term) and (iii) L (from low, as a low level pitch in the final syllable is the characteristic feature of this term).

4.11211 Phonetic exponents.

The phonetic exponents of (i) F (4.112111) (ii) H (4.112112) and (iii) L (4.112113) are as follows:-

4.112111 F

Phonetic exponents stated at serial numbers 1 to 12 (4.112) correspond to the exponents of term F.

It should be pointed out that examples 1 to 6 belong to Imperative grammatical category whereas 7 and 8 belong to Declarative and 9 to 12 belong to Interrogative grammatical category. As a low fall in the final syllable is common to these different grammatical categories it cannot be used as a criterion to distinguish

them from each other. (however since in a Declarative type of sentence the final clause is preceded by the Interjunction [te] and in an Interrogative type of sentence the final clause is either preceded by the Interjunction [ke] or contains an Interrogative word like [kəỹõ] there are other criteria for making the distinction apart from pitch). It should further be pointed out that Imperative is always associated with a low fall in the final syllable but the reverse is not true i.e. a low fall in the final syllable is not always associated with Imperative.

4.112112 H

The phonetic exponents stated at serial numbers 13 to 20 (4.112) correspond to the exponents of term H.

It should be pointed out that all the examples given at serial numbers 13 to 20 belong to Interrogative grammatical category. However a high pitch is not exclusive to Interrogative.[1] It should further be pointed out that certain types of Interrogative sentences end with either low fall in pitch[2] or a low level in pitch.[3]

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1. See phonetic exponents of $\bar{U}$ (4.11)
2. See " " of F at serial numbers 9 to 12 (4.112)
3. See " " of L. " " 30 to 35 (4.112)

4.112113 L

The phonetic exponents stated at serial numbers 21 to 35 (4.112) correspond to the exponents of term L.

It should be pointed out that examples number 21 to 29 belong to Declarative grammatical category whereas examples number 30 to 35 belong to the Interrogative grammatical category.As a low level in pitch in the final syllable is common to these two different grammatical categories it cannot be used as a criterion to distinguish one from the other. However as the final clause in an Interrogative sentence contains an Interrogative word there are other criteria for making the distinction apart from pitch.

CHAPTER V

THE VERB INITIAL.

5.00 Introductory.

This chapter deals with the syntagmatic relationships that exist between various segments of initial syllable of the Verbal Word.

The initial consonant in the initial syllable of the Verbal Word exhibits certain syntagmatic relationships with the following vowel: for instance (I) initial occlusion is linked to voice or partial-voicelessness in a following vowel and (II) non-occlusion is linked to voice in a following vowel. The following examples will illustrate this:

Ia. [(pa)l][1]
b. [(pho)l]

IIa. [(ma)r]
b. [(so)]

English translation:

1a. Bring up.
b. Look for.

2a. Beat.
b. Go to sleep.

It will be seen that in examples 1a above occlusive [p] is followed by a voiced vowel[a] and in example 1b occlusive [p] is followed by a partially voiceless vowel [ho], whereas in example 2a

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1. The relevant examples have been enclosed in round brackets.

and 2b non-occlusive [m] and [s] is followed by a voiced vowel [a] and [o] respectively. It should be clear from the above that on the one hand initial occlusion is associated with voice or partial voicelessness as an alternative feature in a following vowel, and on the other hand non-occlusion is associated with voice in a following vowel.

There is also a relationship of a different type between certain features of the initial consonant and certain qualities of vowel especially certain degrees of openness. For example where voicelessness and aspiration characterise the initial, the vowel has the following possible seven-fold range of quality:

[e o ɛ ɑ ɨ ɤ ɒ ə]

but not closeness ([i u]) where, however, voicelessness combines with non-aspiration as initial features or alternatively where the initial consonant contains a feature of manner of articulation other than plosion, the range of vowel quality is nine-fold:

[i u e o ɛ ɑ ɨ ɤ ɒ ə]

5.10 Initial System

In order to deal with the first of these two types of syntagmatic relationship specified above a two-term prosodic system has been set up at 5.11 for the initial syllable in a di-syllabic verb word (and hence the only syllable in a mono-syllabic word). As this system is related to the word initial it is named Initial System. The two terms of the system are named p (from 'plosion', plosives being dominant in this type of syllable) and non-p ($\bar{p}$).

Phonetic exponents of p and $\bar{p}$

The phonetic exponents of p (5.11) and $\bar{p}$ (5.12) are as follows:

5.11 p

Sā No	Description of phonetic exponents		Examples[1]
	Consonant	Vowel	
1.	occ.+vcless.	vow.+p-vcless[2]	[(phe),(thɔ)kːə,(t̲hɛ)r, (kha),(cho)]
2.	occ.+vcless.	vow. voice	[(pi),(tə)kːə,(t̲a)l,(kɛ), (co)]
3.	occ.+voice	vow. voice	[(bɛ),(de),(d̲ə)r,(ga),(ja)]

Sub-systems: h/$\bar{h}$ (5.111) and v/$\bar{v}$ (5.112).

5.111 h/$\bar{h}$ System.

It will be seen from the phonetic exponents of p (5.11) that there is a type of p syllable in which partial voicelessness in the initial part of a vowel is linked to voicelessness in the initial consonant; say, as in [phe]. This may be contrasted with the remaining type of p syllable in which full voice in a vowel is linked to either voice or partial voicelessness in the initial consonant; say, as in [ji pa] respectively.

In order to deal with the difference in vowel-consonant relationship as explained above a further two-term (h/$\bar{h}$) prosodic system is stated as a sub-system for the p term of the Initial System. The two terms of the

---

1. The relevant piece has been enclosed in round brackets.
2. The following abbreviations have been used for phonetic ...

sub-system are named h (after 'partial voicelessness in the vowel) and non-h ($\bar{h}$).

The phonetic exponents of h (5.1111) and $\bar{h}$ (5.1112) are as follows:

5.1111 h^1

S.No.	Description of phonetic exponents		Examples
	consonant	vowel	
1	vless.	p-vless.	[(phe) (thɔ)kːə (thɛ)r (kha) (cho)][2]

.....features:

occlusion= occ.; plosion=plos.; affrication=affr.; nasality=nas.; friction=fric.; alveolarity=alv.; laterality=lat.; retroflexion= ret.; palatality=pal.; palato-alveolarity=palato-alv.; vowel=vow.; voicelessness=vless.; partial voicelessness=p-vless.; shortness= short.; centrality=central.; centralization=centraliz.; labiality =lab.

1. Also a reason to treat the feature of aspiration as a prosodic feature is that this feature is unrepeatable within a verbal form. It occurs in initial, medial or final syllable, but not more than once in any given verbal form.

2. The relevant piece has been enclosed in round brackets.

5.1112 $\bar{h}$

S.No.	Description of phonetic exponents		Examples
	Consonant	Vowel	
1.	vless.	voice	[(pi (tə)kːə (t̲a)l (kɛ) (co)]
2.	voice	voice	[(bɛ) (de) (d̲ə)r (ga) (ja)][1]

5.112 v/$\bar{v}$ System.

It will be seen from the phonetic exponents of p (5.11) that there is a type of p syllable in which voice in an initial consonant is linked to full voice in an following vowel; say, as in [ja]. This may be contrasted with the remaining type of p syllable wherein voicelessness in an initial consonant is associated with either full voice or partial voicelessness in a following vowel as an alternative feature; say, as in [co cho].

1. The relevant piece has been enclosed in round brackets.

In order to account for this relationship between consonant and vowel a further two-term ($v/\overline{v}$) prosodic system is stated, as a sub-system, for the p term. The two terms of the system are named v (from voice, voice being the characteristic feature of the initial consonant in this type of syllable) and non-v ($\overline{v}$).

The phonetic exponents of v(5.1121) and $\overline{v}$ (5.1122) are as follows:

5.1121 v

S.No.	DESCRIPTION OF PHONETIC EXPONENTS		EXAMPLES
	CONSONANTS	VOWEL	
1.	voice	voice	[(bɛ), (de), (d̲ə)r, (ga), (ja)]

5.1122 $\overline{v}$

S.No.	DESCRIPTION OF PHONETIC EXPONENTS		EXAMPLES
	CONSONANTS	VOWEL	
1.	vless.	voice	[(pi) (tə)kːə (t̲a)l (kɛ), (co)]
2.	vless.	p-vless.	[(phe) (thɔ)kːə (t̲hɛ)r, (kha) (cho)]

5.113 Relationship between h/$\overline{h}$ and v/$\overline{v}$ systems.

There are three possible combinations of the two prosodic systems, which are (i) $\overline{hv}$, (ii) $\overline{h}v$ and (iii) $h\overline{v}$. The following table will illustrate this:

TYPE OF COMBINATION	EXAMPLES
$\overline{hv}$	[pi təl tal kər co]
$\overline{h}v$	[bol de dər ga ja]
$h\overline{v}$	[phe thɑkːə thɛr kha chɔ]

It will be seen from the above table (5.113) that [ph], for instance, has been classified as h because of partial voicelessness in the vowel combined with the matching voicelessness in the initial plosive, in contrast with [pi], for example, classified as $\overline{h}$, in which there is a contrary relationship. [bol], for example, on the other hand has been flassified as v because of full voice in the vowel combined with the matching voice in the initial plosive. This contrasts with, for example, [pi], classified as $\overline{v}$ in which there is a contrary relationship.

It will further be seen that once a syllable is classified as h it must be $\overline{v}$ as well. Similarly a v syllable must be $\overline{h}$ as well. As this is the case a h($\overline{v}$) syllable for the sake of economy, will mark as h; and a ($\overline{h}$)v syllable will be distinguished as v. The third type of syllable will, however, have to be symbolised as $\overline{hv}$.

An alternative treatment of the material is also possible. One might set up a two-term (h/$\overline{h}$) system for the initial syllable. If this mode of analysis were adopted the phonetic exponents of (i) h and (ii) $\overline{h}$ would be as follows:

(i) h

DESCRIPTION OF PHONETIC EXPONENTS		EXAMPLES
CONSONANT	VOWEL	
occ.+vless.	p-vless.	[(phe) (thɷ)kːə (t̪hɛ)r (kha) (ɕho)]

(ii) $\overline{h}$

DESCRIPTION OF PHONETIC EXPONENTS		EXAMPLES
CONSONANT	VOWEL	
occ.+voice	voice	[bɛ de d̪ər ga ja]
lat.+voice	voice	[lər̪]
nas.+voice	voice	[mər,nəcːə]
lab.+fric-less cont. voice	voice	[war]
flap+voice	voice	[ro]
occ.+vless.	voice	[pi to′t̪ɕ′ kɛ co]
fric.+vless.	voice	[so har]

This treatment is not adopted here. The reason is that this treatment would obscure the important phonological fact that it is not any consonantal articulation that is associated with alternative features of vowel, but it is the feature of occlusion that is linked to these alternative features of voice and partial voicelessness in a following vowel. The contrast is between occlusive initial and non-occlusive initial syllable. The major difference between these two types of syllables is that in the latter the vowel invariably is voiced, regardless of whether the initial non-occlusive consonant is voiced or not, whereas in the former the vowel may be either voiced or partially voiceless, and relationship can be established between these alternative vowel features and occlusion in the initial consonant. The syntagmatic implications of non-occlusion are very different from those of occlusion. (cf. English too:

occlusion	+voice/voicelessness
laterality, nasality, roll	+voice (only)
friction	+voicelessness (only) (except loan words, deictics etc:)).

5.12 $\overline{p}$

DESCRIPTION OF PHONETIC EXPONENTS				EXAMPLES
	CONSONANT		VOWEL	
1.	lat.	+voice	voice	[(lə)r]
2.	nas.	+voice	voice	[(mə)r (nə)c:ə]
3.	fricless.cont	+voice	voice	[(wa)r]
4.	fric.	+vless	voice	[(so), (ha)r]

English translation:

1. Fight.
2. Die, dance.
3. Sacrifice.
4. Go to sleep. Be defeated.

5.13 The second type of syntagmatic relationship, that between different ranges of vowel quality and such syllable initial features as plosion versus some feature other than plosion (lat., nas., non-syll.,fric.) or between aspiration versus non-aspiration etc., coincides with the distinction already made under the Initial System ($p/\overline{p}$) and with the p term's sub-systems $h/\overline{h}$ (5.111) and $v/\overline{v}$ (5.112) stated above; hence no additional prosodic systems are needed.

5.131 (1) Plosion when combined with voicelessness and non-aspiration ([p t t̲ k c]), and (2) initial features other than plosion ([l m n s r h w]), are related to the full nine-fold vowel range [i u e o ɛ a; ɤ ɔ ə];

e.g.:

(1) (plosives) [cir tur′ pej′ tol t̲ɛ pa cɤr pɔl′ pər′]

(2) (non-plosives) [si su se so sɛ sar̲ mɤl rɔl lər̲]

The first of these two sets of examples (at 1) are of course also examples of the $\overline{h}$ and the $\overline{v}$ terms of the two sub-systems stated for the term p of the Initial System (5.1112 and 5.1122); while the second set (2) are also examples of the $\overline{p}$ term of the Initial System (5.12).

5.132 Plosion when combined with voicelessness and aspiration, on the other hand, is related to a seven-fold vowel range [e ɛ a o; ɤ ɔ ə]

e.g.: [phe t̲hɛr khä phol phɤr thɔr̲ thək:ə]

These examples have already been classified on other syntagmatic grounds as examples of the h term of the $h/\overline{h}$ sub-system stated for the p term of the Initial System (5.111).

5.133 Further, voice when combined with plosion as an initial feature is relatable to a range of vowel quality intermediate between the two stated above at 5.131 and 5.132; the following eight-fold vowel range [i e o ɛ a; ɤ ɔ ə]

e.g.: [ji de d̲ol bɛ ga dɤwa bɔlə bəl]

Since these examples are also examples of the v term of the $v/\bar{v}$ sub-system stated for the p term of the Initial System (5.112) no additional need be stated.

5.134 From the examples shown in Section 5.132 it will be seen that closeness as a vowel feature ([i u]) does not combine with word initial aspiration; nor does closeness plus backness ([u]) combine with word-initial voice and plosion (5.133).

It is interesting to note that the second type of syntagmatic relationship between a vowel's closure feature and word initial consonant feature does not require an additional prosodic system to be stated: it can be accommodated to the Initial System (2.10) and its sub-systems already stated on other syntagmatic grounds, and therefore, in effect serves to re-inforce that system and its sub-system.

5.22 Phonematic Systems (Syllable initial).

Since the syllable initial features of the p (h, v, $\overline{hv}$) and the $\bar{p}$ types of verb are not subjected to any further prosodic analysis, the remaining phonological differences among them are stated as the exponents of phonematic units. Two types of phonematic system are set up for the initial syllable: One C- System for p (syllable initial) lexical item (5.221) and another C- System for $\bar{p}$ lexical items.

A five-term Phonematic C- System has been set up for the fifteen types of verb belonging to the ph, pv and $p\overline{hv}$ types of syllable (5.121), whereas a nine-term Phonematic C- System has been set up for the nine types of verb belonging to the $\overline{p}$ type of syllable (5.12).

5.221 Phonematic C- System applicable to the p (h, v, $\overline{hv}$).

A five-term phonematic C- System is stated for the 15 types of verb belonging to the p (h, v, $\overline{hv}$) types of syllable. Five of these types of verb (1, 2, 7, 10 and 13 in the following table, page 71) belong to the $p\overline{hv}$ type of syllable, the other five (2, 5, 8, 11 and 14) belong to the ph type of syllable and the remaining five (3, 6, 9, 12 and 15) belong to the pv type of syllable. The five terms of the System and their phonetic exponents are as follows:

(Table overleaf) ...

	PHONEMATIC UNIT	PHONETIC EXPONENTS	PROSODIC GROUP	PHONETIC SYMBOL	EXAMPLE
1.	P	lab. +plos.	pv̄h̄	[p]	[pal]
2.			ph	[p]	[phe]
3.			pv	[b]	[bol]
4.	T	alv. +lam. +plos.	pv̄h̄	[t]	[to′]
5.			ph	[t]	[thɔk:ə]
6.			pv	[d]	[de]
7.	Ø	ret. +apic. +plos.	pv̄h̄	[t̲]	[t̲ɛ′]
8.			ph	[t̲]	[t̲hɛr]
9.			pv	[d̲]	[d̲ol]
10.	K	vel. +dors. +plos.	pv̄h̄	[k]	[kər]
11.			ph	[k]	[kha]
12.			pv	[g]	[ga]
13.	C	pal-alv. +dors. +affr.	pv̄h̄	[c]	[cix]
14.			ph	[c]	[chɪk:ə]
15.			pv	[j]	[ja]

English translation:

1.	Bring up	4.	Wash	8.	Stop	12.	Sing
2.	Press	5.	Spit	9.	Throw away	13.	Cry
3.	Speak up	6.	Give away	10.	Do	14.	Pull
		7.	Fall down	11.	Eat	15.	Go away

5.122 Phonematic C- System applicable to $\bar{p}$

A nine-term Phonematic C- System has been set up for the nine types of verb belonging to $\bar{p}$. The nine terms and their phonetic exponents are as follows:

S.NO.	PHONEMATIC UNIT	PHONETIC EXPONENTS	PHONETIC SYMBOLS	EXAMPLES
1.	L	lat.+alv. +voice	[l]	[lər]
2.	M	nas.+lab. +voice	[m]	[mər]
3.	N	nas.+alv. +lam.+voice	[n]	[nəc:ə]
4.	S	fric.+alv.+lam.+vless	[s]	[so]
5.	Z	fric.+alv.+lam.+voice	[z]	[zã k]
6.	ᔑ	fric.+ret.+apic.+ vless.	[ʂ]	[ʂərma]
7.	R	fric.+alv.+lam.+ vless.	[r]	[ro]
8.	H	vocalic+vless.	[h]	[har]
9.	W	vocalic+labio-vel.+ voice	[w]	[war]

English translation:

1.	fight	4.	Go to sleep	7.	Cry
2.	Die	5.	Long for	8.	Be defeated
3.	Dance	6.	Be shy	9.	Sacrifice

CHAPTER VI

ROOT FINAL

6.00 Introductory.

This chapter deals with characteristics of the root syllable final. According to these characteristics 4 different types of final syllables have been established. In one type of syllable shortness in a final consonant is linked to shortness or length in a preceding vowel as an alternative feature; e.g., [m(ər)] and [m(ar)].[1]
In another type of syllable shortness in a final consonant is linked to length in a preceding vowel; or length [:] in a final consonant is associated with shortness in a preceding vowel together with presence of the post-vocalic element [ə hə] ; e.g., [t(ok)] or [t(ɑk:ə)] and [r(ək:hə)].[1]
In the third type of syllable shortness in a final consonant is linked to shortness in the preceding vowel ; e.g., [tər(ɑf)].[1]
Finally in the fourth type of syllable there is no post vocalic consonant and the final vowel is long; e.g., [j(a)].[1]

It should be pointed out here that the fourth type of word is phonetically similar to a second type of syllable in being open but differs from it in (i) being monosyllabic and (ii) having a long vowel.

---

1. The relevant piece has been enclosed in round brackets.

6.10 Final System.

In order to account for the above characteristics a four-term prosodic system has been set up here for the root final and it is, therefore, named Final System. The 4 terms of the system are named (i) c (after 'continuants') (ii) p (after 'plosion', plosive being dominant in this type of syllable) (iii) ɑ (this being the only vowel in this type of final syllable) and (iv) o (from 'openness').

6.11 Phonetic exponents of the terms of the Final System.

The phonetic exponents of (i) c (6.111) (ii) p (6.112), (iii) ɑ (6.113) and (iv) o (6.114) are as follows:

6.111 c

PHONETIC EXPONENTS		EXAMPLES	S.
VOWEL[1]	CONSONANT		NO.
length/-short.	fric. +short.	[n(əs)][2]	1
		[p(əx′)]	2
		[j(os)]	3
		[c(ix)]	4
" "	flap	[m(ər)]	5
		[w(ar)]	6
" "	lat.	[t(əl)]	7
		[t(al)]	8
" " +nas.	nas. +short., occ. +short.	[m(ə̃nd)]	9
		[r(ə̃ŋg)]	10
		[m(ãɲj)]	11
" " "	" "	[c(ə̃m)]	12
		[m(ə̃n)]	13
		[j(ãr̃)]	14

1. The vowels are non-nasal except where nasality[˜] is indicated.

2. The relevant piece has been enclosed in round brackets.

6.1111 n / $\bar{n}$ System.

It will be seen from the phonetic exponents of c (6.111) that in one type of c syllable nasality [˜] in a vowel is linked to nasality in a following consonant (examples 9 to 14). This may be contrasted with the remaining type of c syllable where non-nasality in a vowel is associated with non-nasality in a following consonant (examples 1 to 8).

In order to deal with the syntagmatic relationship between a vowel and a following consonant a two-term prosodic system is stated here for the c. The 2 terms of the system are named (i) n (after nasality) and (ii) non-n ($\bar{n}$).

6.11111 Phonetic exponents of the n and the $\bar{n}$.

The phonetic exponents of n (6.111111) and $\bar{n}$ (6.111112) are as follows:

6.111111 n

PHONETIC EXPONENTS		EXAMPLES	S.NO.
VOWEL	CONSONANT		
nas.	nas., occ.	[m(ə̃n̪d)]	1
		[r(ə̃ŋg)]	2
		[m(ã̠ɲj)]	3
"	"	[c(ə̃m)]	4
		[m(ə̃n)]	5
		[j(ã r̃)]	6

6.111112 n̄

PHONETIC EXPONENTS			
VOWEL	CONSONANT	EXAMPLES	S.NO.
non-nasl.	non-nas.	[n(əs)]	1
		[p(əx′)]	2
		[j(o̲s̲)]	3
		[c(ix)]	4
		[m(ər)]	5
		[w(a̲r̲)]	6
		[t̲(əl)]	7
		[t̲(al)]	8

6.112 p

PHONETIC EXPONENTS							EXAMPLES	S. NO.
VOWEL	CONSONANT			VOWEL				
short.	occ.	+voice	+length	cent.	+voice	+short.	[l(əb:ə)]	1
							[k(ɑd:ə)]	2
							[k(ədˍ:ə)]	3
							[tˍ(həg:ə)]	4
							[g(ɵj:ə)]	5
"	"	+vless.	"	"	"	"	[k(əp:ə)]	6
							[k(ət:ə)]	7
							[p(ətˍ:ə)]	8
							[c(ɑk:ə)]	9
							[n(ɵc:ə)]	10
"	"	"	"	"	+p-vless.	"	[l(ɪp:hə)]	11
							[c(ɪt:hə)]	12
							[(ɑtˍ:hə)]	13
							[r(ɵk:hə)]	16
							[k(əc:hə)]	17
length	"	"	+short.	-	-	-	[j(ot)]	18
							[m(utˍ)]	19
							[r(ok)]	20
							[w(ec)]	21
"	"	+voice	"	-	-	-	[dˍ(ob)]	22
							[k(hedˍ)]	23
							[j(ag)]	24
							[p(ej′)]	25

6.1121 s / $\bar{s}$ System.

It will be seen from the phonetic exponents of the p (6.112) that in one type of p syllable length [:] in a final consonant is linked with shortness in a preceding vowel and the following vowel as well (examples 1 to 17). This may be contrasted with the remaining type of p syllable where shortness in a final consonant is associated with length in a preceding vowel (examples 18 to 25).

In order to deal with the syntagmatic relationship stated above a two-term prosodic system (s/$\bar{s}$) is set up here for the p. The 2 terms of the system are named (i) s (from shortness in the consonant) and (ii) $\bar{s}$ (non-s).

6.11211 Phonetic exponents of s and $\bar{s}$.

The phonetic exponents of (i) s (6.112111) and (ii) $\bar{s}$ (6.112112) are as follows:

6.112111 s

PHONETIC EXPONENTS		EXAMPLES	S.NO.
VOWEL	CONSONANT		
length	short.	[j(ot)]	1
		[m(ut)]	2
		[r(ok)]	3
		[w(ec)]	4
		[d(ob)]	5
		[k(hed)]	6
		[j(ag)]	7
		[p(ej')]	8

6.112112 s̄

PHONETIC EXPONENTS			EXAMPLES	S.NO.
VOWEL	CONSONANT	VOWEL		
short.	length	short. +voice	[l(əb:ə)]	1
			[kɨɑd:ə)]	2
			[k(əd:ə)]	3
			[t(həg:ə)]	4
			[g(əj:ə)]	5
			[k(əp:ə)]	6
			[k(ət:ə)]	7
			[p(ət:ə)]	8
			[c(ɑk:ə)]	9
			[n(əc:ə)]	10
"	"	" +p-vless.	[l(ɤp:hə)]	11
			[c(ɤt:hə)]	12
			[(ɑt:hə)]	13
			[r(ək:hə)]	14
			[k(əc:hə)]	15

6.1121121 h / $\bar{h}$ System.

It will be seen from the statement of exponency of the $\bar{s}$ (6.112112) that in one type of $\bar{s}$ syllable partial voicelessness in the final vowel [hə] is linked to voicelessness in a preceding consonant (examples 11 to 15). This type of $\bar{s}$ syllable is distinguished, prosodically, from the remaining type of $\bar{s}$ syllable in which voice in the final vowel [ə] is associated with voice or voicelessness as an alternative feature in a preceding consonant (examples 1 to 10).

In order to deal with the syntagmatic relationship stated above a two-term(h/$\bar{h}$) prosodic system is set up here for the $\bar{s}$. The 2 terms of the system are named (i) h (from partial voicelessness in the final vowel) and (ii) non-h ($\bar{h}$).

6.11211211 Phonetic exponents of h and $\bar{h}$.

The phonetic exponents of (i) h (6.112112111) and (ii) $\bar{h}$ (6.112112112) are as follows:

6.112112111 h

PHONETIC EXPONENTS		EXAMPLES	S.NO.
CONSONANT	VOWEL		
vless.	p-vless.	[lʊ(p:hə)]	1
		[c ʊ(t:hə)]	2
		[ɑ(t̲:hə)]	3
		[r ə(k:hə)]	4
		[k ə(c:hə)]	5

6.112112112 h̄

PHONETIC EXPONENTS		EXAMPLES	S.NO.
CONSONANT	VOWEL		
voice	voice	[lə(b:ə)]	1
		[kɑ(d:ə)]	2
		[kə(d̲:ə)]	3
		[t̲hə(g:ə)]	4
		[gə(j:ə)]	5
vless.	"	[kə(p:ə)]	6
		[kə(t:ə)]	7
		[pə(t̲:ə)]	8
		[cɑ(k:ə)]	9
		[nə(c:ə)]	10

6.1121122 v / $\bar{v}$ System.

It will be seen from the phonetic exponents of the $\bar{s}$ that in one type of $\bar{s}$ syllable voice in a final consonant is linked to voice in the following vowel [ə] (examples 1 to 5 (6.112112)). This may be contrasted with the remaining type of $\bar{s}$ syllable in which voicelessness in a final consonant is associated with voice or voicelessness as alternative feature in the following vowel [ə hə] (examples 6 to 15 (6.112112)).

In order to deal with the syntagmatic relationships between consonant and vowel a two-term (v/$\bar{v}$) prosodic system is stated here for the $\bar{s}$. The 2 terms of the system are named (i) v (from voice in final consonant) and (ii) $\bar{v}$ (non-v).

6.11211221 Phonetic exponents of v and $\bar{v}$.

The phonetic exponents of (i) s (6.112112211) and (ii) $\bar{s}$ (6.112112212) are as follows:

6.112112211 v

PHONETIC EXPONENTS		EXAMPLES	S.NO.
CONSONANT	VOWEL		
voice	voice	[lə(b:ə)]	1
		[kɷ(d:ə)]	2
		[kə(d:ə)]	3
		[thə(g:ə)]	4
		[gə(j:ə)]	5

6.112112212 $\bar{v}$

PHONETIC EXPONENTS		EXAMPLES	S.NO,
CONSONANT	VOWEL		
vless.	voice	[kə(p:ə)]	1
		[kə(t:ə)]	2
		[pə(t̲:ə)]	3
		[cɷ(k:ə)]	4
		[nə(c:ə)]	5
"	p-vless.	[lɤ(p:hə)]	6
		[cɤ(t:hə)]	7
		[ɷ(t̲:hə)]	8
		[rə(k:hə)]	9
		[kə(c:hə)]	10

6.113 ɑ

PHONETIC EXPONENTS		EXAMPLES	S.NO.
VOWEL	CONSONANT		
back.+ short.	short.	[khot(ɑr)]	1
		[ləp(ɑr)]	2
		[tər(ɑs)]	3
		[bəx(ɑs)]	4
		[cəm(ɑx)]	5
		[tər(ɑf)]	6
		[lər(ɑz)]	7
		[wər(ɑt)]	8
		[khɑr(ɑk)]	9
		[khɑr(ɑc)]	10
		[ʂəm(ɑj)]	11

English translation:

1. Dig out.
2. Catch.
3. Be deprived of.
4. Forgive.
5. Shine.
6. Toss your head.
7. Tremble.
8. Use it.
9. Scratch.
10. Scratch.
11. Understand.

6.114 o

PHONETIC EXPONENTS	EXAMPLES	S.NO.
vow. +length	[p(i)]	1
	[d̪(e)]	2
	[k(ɛ)]	3
	[j(a)]	4
	[r(o)]	5
	[s(u)]	6

English translation:

1. Drink.
2. Give away.
3. Speak up.
4. Go away.
5. Cry.
6. Deliver (a baby).

In accordance with their similarity in respect of the syntagmatic association of features within the verb-root final as stated above the fifty three types of verb root have been put into the following nine groups:

S.NO.	VERB-ROOT	PROSODIC GROUP	GROUP NO.
1	[mə̃n̪d̪]	cn	i
2	[rə̃ŋg]		
3.	[mə̃ɲj]		
4	[jə̃r̃]		
5	[cə̃m]		
6	[mə̃n]		
7	[nəs]	cn̄	ii
8	[bəx']		
9	[məl]		
10	[jos̪]		
11	[cix]		
12	[t̪al]		
13	[war̪]		
14	[mər]		
15	[lʈp:hə]	phs̄	iii
16	[cʈt:hə]		
17	[rək:hə]		
18	[kəc:hə]		
19	[ɷt̪:hə]		

S.NO.	VERB-ROOT	PROSODIC GROUP	GROUP NO.
20	[ləb:ə]	pvs̄	iv
21	[kɑd:ə]		
22	[t̲həg:ə]		
23	[gəj:ə]		
24	[kəd̲:ə]		
25	[kəp:ə]	pv̄v̄s̄	v
26	[kət:ə]		
27	[cɑk:ə]		
28	[nəc:ə]		
29	[pət̲:ə]		
30	[jot]	pv̄v̄s	vi
31	[rok]		
32	[wec]		
33	[mut̲]		
34	[d̲ob]	pvs	vii
35	[jag]		
36	[pej′]		
37	[khed̲]		
38	[ləpɑr̲]	ɔ	viii
39	[khotɑr]		
40	[tərɑs]		
41	[bəxɑs̲]		
42	[tər̲ɑf]		
43	[lərɑz]		
44	[wərɑt]		
45	[khərɑk]		
46	[khərɑc]		
47	[gərɑj]		

S.NO.	VERB-ROOT	PROSODIC GROUP	GROUP NO.
48	[pi]	o	ix
49	[de]		
50	[kɛ]		
51	[ga]		
52	[ro]		
53	[su]		

As each prosodic group contains more than one type of verb-root, any further phonological distinctions may be stated as exponents of phonematic units; but there is still one more set of syntagmatically associated features to be taken into account. This set of features is drawn from the verb-root syllable and an inflexion syllable that combines with it and is stated in the following chapter.

CHAPTER VII

VERB-ROOT FINAL SYLLABLE AND INFLEXION INITIAL SYLLABLE

7.00 Introductory

This chapter gives an account of the verbal form in relation to some syntagmatic differences that it exhibits, in its phonetic form, in different contexts.

Let us take, for example, a few words in which the verbs such as [kəc:hə dəs rə̃ŋg war khɑrɑk ro] appear in their un-inflected forms and with a few inflexions too, such as [di/ndi a/ha/ya r̃ã/ə̃r̃ẽ/nã][1,2] as they appear in different contexts:

S. No	A	B	C	D
1.	[kəc:hə	kəc-di	kəc:ñə̃-r̃ã	kəc:-ha]
2.	[dəs	dəs-di	dəs:-ə̃r̃ã	dəs:-a]
3.	[rə̃ŋg	rə̃ŋg-di	rə̃ŋg-ə̃r̃ã	rəŋg-a]
4.	[war	war-di	war-nã	war-a]
5.	[khɑrɑk	khɑrɑk-di	khɑrɑk-nã	khɑrk-a]
6.	[ro	rõ-ndi	rõ-r̃ã	ro-ya]

English translation:

1A	Measure	1C	To measure
1B	Had she measured	1D	Measured

1. I have taken only three inflexions here for the convenience of illustration; various other inflexions will be stated later (7.10).

2. An oblique has been used here to state alternative forms.

2A Show	2B Had she shown
2C To show	2D Shown
3A Colour	3B Had she coloured
3C To colour	3D coloured
4A Sacrifice	4B Had she sacrificed
4C To sacrifice	4D Sacrificed
5A Scratch	5B Had she scratched
5C To scratch	5D Scratched
6A Weep	6B Had she wept
6C To weep	6D Wept

We find that in the case of example 1 the verb-root is [kəc:hə] in column A, it is [kəc] in column B and it appears to be [kəc:ñə̃] and kəc:] in columns C and D respectively.

In the case of example 2 the verb-root is [dəs] in columns A and B and it is [dəs:] in columns C and D.

In the case of examples 4 and 5 the phonetic shape of the verb-root remains the same in all contexts.

Finally in the case of example 6 we find that the verb-root is [ro] in columns A and D, and it is [rõ] in columns B and C.

Now if we look at these examples from the inflexion point of view we find that in the case of examples 1 to 5 the inflexionin column B is [di]; but it appears to be [ndi] in the case of example 6.

In the case of examples 1 the inflexion in column C appears to be [r̃ã], in the case of examples 2 and 3 it appears to be [ər̃ã], in the case of examples 4 and 5 it is [nã] and in the case of example 6 it is [r̃ã].

Finally in the case of example 1 the inflexion in column D appears to be [ha], in the case of examples 2 to 5 it is [a] and in the case of example 6 it appears to be [ya].

The difference in the phonetic form of a lexical item can be explained in terms of syntagmatic relationships that exist between final syllable (or final segment of a final syllable) of the verb-root and an initial segment of an inflexion, when they occur in Intra-verbal Junction.

The verb-root final syllable features are, accordingly, considered in association with features of the inflexional initial syllable in 8 phonetic types ofpiece [1] which are as follows:-

1 [di]
2 [r̃ã]
3 [ɔs]
4 [ya]
5 [w̃ã]
6 [we]
7 [hi]
8 [nã]

---

1. A piece may be mono-syllabic or di-syllabic, e.g., [(as)], [(aya)], [rə(gɔrɔd)i]. (The relevant piece in the examples has been enclosed in round brackets). It will be seen that in the first example the piece is mono-syllabic and comprises [a] the root and [s] the inflexion. In the second example the piece is di-syllabic and comprises [a] the root, [a] the inflexion and [y] the junction element. In the third example the piece is di-syllabic and consists of [gɔr], which is part of the root, [d] which is part of the

Each of the 8 types of piece stated above is named after the inflexion or one of the inflexions that combines with the verb-root in that particular type of piece. Each of the 8 groups of inflexions have more than one phonetic shape depending on the context it appears in. As such one of the phonetic form has been adopted for naming the pieces. The [ya] piece, for instance, may contain one of the two inflexions, i.e. [a/ã/ha/ya] or [ɛ/ɛ̃/hɛ/yɛ]. The former inflexion has been adopted for naming this piece. This inflexion has 4 different phonetic shapes. The piece has been named after one of these 4 i.e. [ya][1].

It will be seen from the following table that seven of the above 8 types of piece may contain more than one inflexion. The [di] piece, for instance, may contain either of the following 4 inflexions:

[di/ndi/ədi/ə̃di/hədi]

[da/nda/əda/ə̃da/hədə]

[de/nde/əde/ə̃de/həde]

[dʈỹã/ndʈỹã/ədʈỹã/ə̃dʈỹã/hədʈỹã]

Although these inflexions are grammatically different from each other they have been grouped together on the basis of their phonetic behaviour in different contexts.

Continued from previous page:

inflexion and [ɷ] the junction element.

1. Another way of naming the piece would be to use capital letters, for instance, the [di] piece could be named DI or D. Although it is economical and easier to use capital letters as compared with using one of the phonetic forms, as the capital letters have been used in this thesis for phonematic units this could cause confusion. Hence my preference to use one of the phonetic forms instead.

TYPE OF PIECE	INFLEXION				
[di]	di	de	da	diã	deo
[r̃ã]	r̃ĩ	r̃ẽ	r̃ã	r̃ĩã	
[ɷs]	s				
[ya]	ɛ	a			
[w̃ã]	ẽ	ã			
[we]	e	o			
[hi]	i	iã	iẽ		
[nã]	nĩ	nẽ	nã		

7.10 Intra-verbal Junction System.

In accordance with their similarity in respect of the syntagmatic associations of features in conjunction with a following inflexion the verb roots have been put into the following 6 groups. The six groups mean that there are syntagmatic grounds for distinguishing the verb roots of each group from the verb-roots of the other 5 groups in at least one of the 8 types of piece stated above(7.00). Accordingly, a six-term prosodic system is stated. Since this system is concerned with the final syllable of the verb-root and the initial syllable of a following inflexion it is named the Intra-verbal Junction System. The 6 terms of the system are (i) c (after continuants, where final consonants in the verb-root are continuants), (ii) p (after plosion, where plosives are dominant in the final syllable of the verb-root), (iii) ɑ (where the only vowel that occurs in the final syllable of the verb-root is [ɑ]), (iv) f (after flap, where the articulation of the final consonant is of flap type), (v) d (after double, where the verb-root has a sequence of two consonants in the final syllable) and o (after open, where the verb-root has a final vowel).

The phonetic exponents of each of the 6 terms of the system are sequence of features drawn from both syllables, the verb-root final and the inflexion initial.As such the phonetic exponents of each of the 8 groups of inflexions are stated as well. Hence there is no need to state exponents of inflexional syllables separately.

7.11 The phonetic exponents of the terms of the Intra-verbal Junction System.

The phonetic exponents of c(7.111), p (7.112), ɑ (7.113), f (7.114), d (7.115) and o (7.116) are as follows:

TYPE OF PIECE	PHONETIC EXPONENTS			EXAMPLES[1]	S.NO.
	STEM FINAL	JUNCTION ELEMENT (WHERE PRESENT)	INFLEXION INITIAL		
[di]	fric. +short.		plos. +voice	[nə(sd)i]	1
				[jo(s̲d)i]	2
				[ci(xd)i]	3
	lat. "		" "	[mə(ld)i̲]	4
	nas. "		" "	[cə̃(md)i]	5
[r̲ə̃]	fric. +short.	vow. +cent. +short. +voice+nas.	nas. +ret.	[jo(s̲ə̃r̲)ə̃]	6
				[ci(xə̃r̲)ə̃]	7
	" +length	" " " " "	" "	[nə(s:ə̃r̲)ə̃]	8
				[pə(x:ə̃r̲)ə̃′]	9
	lat. +short.	" " " " "	" "	[t̲a(lə̃r̲)ə̃]	10
	" +length	" " " " "	" "	[mə(l:ə̃r̲)ə̃]	11
	nas. + "	" " " " "	" "	[cə̃(m:ə̃r̲)ə̃]	12
				[mə̃(n:ə̃r̲)ə̃]	13

1. The relevant piece has been enclosed in round brackets.

C (Contd.)

[ɷs]	lat.	+short.	vow. +back. +short. +voice [1]	fric.	[ta(lɷs)] 14
	"	+length	" " " "	"	[mə(l:ɷs)] 15
	nas.	"	" " " "	"	[cɷ̃(m:ɷs)] 16
					[mɷ̃(n:ɷs)] 17
[ya]	fric.	+length		vow.+open/half-open +voice +length [2]	[nə(s:a)] 18
					[jo(s:a)] 19
					[ci(x:a)] 20
	lat.	"		" " " "	[mə(l:a)] 21
	nas.	"		" " " "	[cɷ̃(m:a)] 22
					[mɷ̃(n:a)] 23
[ɷ̃a]	fric.	"		vow.+open./half-close. +voice+length +nas. [3]	[nə(s:ã)] 24
					[jo(s:ã)] 25
					[ci(x:ã)] 26
	lat.	"		" " " " "	[mə(l:ã)] 27
	nas.	"		" " " " "	[cɷ̃(m:ã)] 28
					[mɷ̃(n:ã)] 29

1. Vowels are non-nasal except where nasality[~] is indicated
2. For verbs containing inflexion ɛ see examples 18a to 23a page 99
3. " " " " ɛ̃ " " 24a to 29a page 99

c (contd.)

[we]	fric. +length	vow.+half-clos . +voice +length[1]	[nə(s:e)]	30
			[jo(s:e)]	31
			[ci(x:e)]	32
	lat. "	" " " "	[mə(l:e)]	33
	nas. "	" " " "	[cə(m:e)]	34
			[mə(n:e)]	35
[wi]	fric. + "	" +close +front. +voice+length	[nə(s:i)]	36
			[jo(s:i)]	37
			[ci(x:i)]	38
	lat. "	" " " " "	[mə(l:i)]	39
	nas. "	" " " " "	[cə̃(m:i)]	40
	fric +short.	nas. + alve	[mə̃(n:i)]	41

1. For verbs containing inflexion o see examples 30a to 35a page 99

c (contd.)

[nã]	fric. + short.	nas. + alv.	[nə(sn)ã]	42
			[jo(s̲n)ã]	43
			[ci(xn)ã]	44
	lat. "	" "	[mə(ln)ã]	45
	nas. "	" "	[cɑ̃(mn)ã]	46
			[mɑ̃̃(nn)ã]	47

Supplementary examples:

18a.	[nə(s:ɛ)]	19a.	[ci(x:ɛ)]	20a.	[jo(s̲:ɛ)]	21a.	[mə(l:ɛ)]	22a.	[cɑ̃(m:ɛ)]	23a.	[mɑ̃(n:ɛ)]
24a.	[nə(s:ẽ)]	25a.	[ci(x:ẽ)]	26a.	[jo(s̲:ẽ)]	27a.	[mə(l:ẽ)]	28a.	[cɑ̃(m:ẽ)]	29a.	[mɑ̃(n:ẽ)]
30a.	[nə(s:o)]	31a.	[ci(x:o)]	32a.	[jo(s̲:o)]	33a	[mə(l:o)]	34a.	[cɑ̃(m:o)]	35a.	[mɑ̃(n:o)]

In the case of [r̃a] piece it would be possible to attempt to allocate certain features to the final syllable of the root and to the inflexion: [ãr̃ã] might be assigned to the inflexion thus leaving [θ-] for the root; but there is no need to make a division: the vowel [ə] can perfectly well be considered as common to, and shared by, both root and inflexion.

7.1111 s/s̄ System.

It will be seen from the phonetic exponents of the c (7.111) that a final consonant of the root syllable is short in the [di] and [nã] types of piece whereas it is long in the [ya], [w̃ã], [we] and [hi] types of piece. However in the [r̃ã] and [ɒs] types of piece one type of the c root syllable final conconant is long (examples 6,7, 10, 14) and in the remaining type it is short (examples 8, 9, 11, 12, 13, 15, 16, 17). The length or shortness as an alternative feature of the root syllable final consonant depends on the type of piece it appears in. In order to deal with this syntagmatic relationship between the root syllable and an inflexion a two-term prosodic system is stated for the c. The 2 terms of the system are named s, (after shortness in the final consonant of the root syllable) and non-s (s̄).

7.11111 The phonetic exponents of s and s̄.

The phonetic exponents of s (7.111111) and s̄ (7.111112) are as follows:

[di]	fric. +short.		plos. +voice	[jo(s̲d)i]	1
101				[ci(xd)i]	2
	lat. "		" "	[t̲a(ld)i]	3
[r̲ə̃]	fric. "	vow.	nas. +ret.	[jo(s̲ə̃r̲)ə̃]	4
				[ci(xə̃r̲)ə̃]	5
	lat. "	"	" "	[t̲a(lə̃r̲)ə̃]	6
[ɷs]	lat. "	vow.	fric.	[t̲a(lɷs)]	7
[ya]	fric. +length		vow.+open/half-open.+voice+length[1]	[jo(s̲:a)]	8
				[ci(x:a)]	9
	lat. "		" " " "	[t̲a(l:a)]	10
[wə̃]	fric. "		vow.+open/half-close.+length+nas.+voice[2]	[jo(s̲:ə̃)]	11
				[ci(x:ə̃)]	12
	lat. "		" " " " "	[t̲a(l:ə̃)]	13
[we]	fric. "		vow.+half-close.+voice +length[3]	[jo(s̲:e)]	14
				[ci(x:e)]	15
	lat. "		" " " "	[t̲a(l:e)]	16

1. For verbs containing inflexion ɛ see examples 8a to 10a page 102
2. " " " " ə̃ " " 11a to 13a page 102
3. " " " " o " " 14a to 16a page 102

5 (contd.)

[hi]	fric. + length	vow. + close. + front. + voice + length	[jo(s̲:i)]	17
			[ci(x:i)]	18
	lat. "	" " " " "	[t̲a(l:i)]	19
[nã]	fric. + short.	nas. + alv.	[jo(s̲n)ã]	20
			[ci(xn)ã]	21
	lat. "	" "	[t̲a(ln)ã]	22

Supplementary examples:

8a.	[jo(s̲:ɛ)]	9a.	[ci(x:ɛ)]	10a.	[t̲a(l:ɛ)]
11a.	[jo(s̲:ɛ̃)]	12a.	[ci(x:ẽ)]	13a.	[t̲a(l:ẽ)]
14a.	[jo(s̲:o)]	15a.	[ci(x:o)]	16a.	[t̲a(l:o)]

7.111112 _s_

[di]	fric.+short.		plos.+voice	[nə(sd)i]	1
				[pə(xd)i']	2
	lat. "		" "	[mə(ld)i]	3
	nas. "		" "	[cə̃(md)i]	4
				[mə̃(nd)i]	5
[ra]	fric.+length	vow.	nas. +ret.	[nə(s:ə̯r)a]	6
				[pə(x:ə̯r)a']	7
	lat. "	"	" "	[mə(l:ə̯r)a]	8
	nas: "	"	" "	[cə̃(m:ə̯r)a]	9
				[mə̃(n:ə̯r)a]	10
[os]	lat. "	vow.	fric.	[mə(l:os)]	11
	nas. "	"	"	[cə̃(m:os)]	12
				[mə̃(n:os)]	13

ɛ (contd.)

[ya]	fric. +length		vow. +open/half-open.+voice +length[1]	[nə(s:a)]	14
				[pə(x:a')]	15
	lat. "		" " " "	[mə(l:a)]	16
	nas. "		" " " "	[cɑ̃(m:a)]	17
				[mɑ̃(n:a)]	18
[ɯ̃ã]	fric. "		vow. +open./half-close.+voice+length+nas.[2]	[nə(s:ã)]	19
				[pə(ɯ:ã')]	20
	lat. "		" " " " "	[mə(l:ã)]	21
	nas. "		" " " " "	[cɑ̃̃(m:ã)]	22
				[mɑ̃(n:ã)]	23
[we]	fric. "		vow. +half-close. +voice +length[3]	[nə(s:e)]	24
			" " " "	[pə(x:e')]	25
	lat. "		" " " "	[mə(l:e)]	26
	nas. "		" " " "	[cɑ̃(m:e)]	27
				[mɑ̃(n:e)]	28

1. For verbs containing inflexion ɛ see examples 14a to 18a page 105
2. " " " " ɐ " " 19a to 23a page 105
3. " " " " o " " 24a to 28a page 105

$\bar{s}$ (contd.)

[hi]	fric. + length	vow. +close.+ front. + voice + length	[nə(s:i)]	29
			[pə(x:ĭ)]	30
	lat. "	" " " " "	[mə(l:i)]	31
	nas. "	" " " " "	[cə̃(m:i)]	32
			[mə̃(n:i)]	33
[nã]	fric. + short.	nas. + alv.	[nə(sn)ã]	34
			[pə(xn)ã′]	35
	lat. "	" "	[mə(ln)ã]	36
	nas. "	" "	[cə̃(mn)ã]	37
			[mə̃(nn)ã]	38

Supplementary examples:

14a.	[nə(s:ɛ)]	15a.	[pə(x:ɛ′)]	16a.	[mə(l:ɛ)]	17a.	[cə̃(m:ɛ)]	18a.	[mə̃(n:ɛ)]
19a.	[nə(s:ẽ)]	20a.	[pə(x:ẽ)]	21a.	[mə(l:ẽ)]	22a.	[cə̃(m:ẽ)]	23a.	[mə̃(n:ẽ)]
24a.	[nə(s:o)]	24a.	[pə(x:o′)]	26a.	[mə(l:o)]	27a.	[cə̃(m:o)]	28a.	[mə̃(n:o)]

The phonetic exponents of s and $\bar{s}$ stated above show that s type of root syllable is not distinguished in the [di], [ya], [w̃ã], [ʰi] and [nã] types of piece from the $\bar{s}$ type of root syllable; but they are distinguishable from each other in the [ɷs] and[r̃ã] types of piece. The s type of root syllable is characterised by shortness of final consonant whereas the $\bar{s}$ type of root syllable is characterised by length of final consonant.

TYPE OF PIECE	PHONETIC EXPONENTS									EXAMPLES[1]	S. NO.
	STEM FINAL				JUNCTION ELEMENT(WHERE PRESENT)				INFLEXION INITIAL		
. [di]	plos.	+ret.	+voice	+short.	vow.	+cent.	+voice	+short.[2]	plos. +voice	[khe(d̲əd)i]	1
	"	"	"	length	"	"	"	"	" "	[kə(d̲:əd)i]	2
	"	"	vless.	+short.	"	"	"	"	" "	[mu(t̲əd)i]	3
	"	"	"	+length	"	"	"	"	" "	[kɔ̃(t̲:əd)i]	4
	"	"	"	"	"	"	p-vless.	"	" "	[ɒ̃(t̲:həd)i]	5
	occ.	+non-ret.	"	+short.					" "	[lɪ(pd)i]	6
										[ro(kd)i]	7
										[we(cd)i]	8
	"	"	+voice	"					" "	[lə(bd)i]	9
										[lə(dd)i]	10
										[ja(gd)i]	11
										[pe(jd)i']	12

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1.Revelant piece has been enclosed in round brackets.

2.Vowels are non-nasal except where nasality[~] is indicated.

ɽ (contd.)

[ɽa]	plos.	+ret.	+voice	+short.	vow.	+cent.	+voice	+short.	+nas.	nas.+ret.	[khe(dəɽ)a] 13
	"	"	"	+length	"	"	"	"	"	"	[kə(d:əɽ)a] 14
	"	"	+vless.	+short.	"	"	"	"	"	"	[mu(təɽ)a] 15
	"	"	"	+length	"	"	"	"	"	"	[kɷ(t:əɽ)a] 16
	"	"	"	"	"	"	ɸ-vless.	"	"	"	[ɷ(t:nəɽ)a] 17
	occ.	+non-ret.	"	"	"	"	"	"	"	"	[lɾ(p:nəɽ)a] 18
											[cɾ(t:nəɽ)a] 19
											[rə(k:nəɽ)a] 20
											[kə(c:nəɽ)a] 21
	"	"	"	"	"	"	voice	"	"	"	[kə(p:əɽ)a] 22
											[kə(t:əɽ)a] 23
											[cɷ(k:əɽ)a] 24
											[nə(c:əɽ)a] 25
	"	"	+v	+short.	"	"	"	"	"	"	[jo(təɽ)a] 26
											[ro(kəɽ)a] 27
											[we(cəɽ)a] 28

p (contd.)

[r̲ə]	occ.	+non-ret.	+voice	+length	vow.	+cent.	+voice	+short.	+nas.	nas.	+ret.	[də(b:ə r̲)ə] 29
												[lə(d:ə r̲)ə] 30
												[t̲hə(g:ə r̲)ə] 31
												[wə(j:ə r̲)ə] 32
	"	"	"	+short.	"	"	"	"	"	"	"	[d̲o(bə r̲)ə] 33
												[ja(gə r̲)ə] 34
												[pe(jə r̲)ə′] 35
[ɷs]	plos.	+ret.	+voice	+length	vow.	+back.	+voice	+short.		fric.		[kə(d̲:ɷs)] 36
	"	"	+vless.	"	"	"	"	"		"		[kɷ(t̲:ɷs)] 37
	"	"	"	+short.	"	"	"	"		"		[mu(t̲ɷs)] 38
	occ.	+non-ret.	"	+length	"	"	+p-vless.	"		"		[cɾ(t:hɷs)] 39
												[rə(k:hɷs)] 40
												[kə(c:hɷs)] 41
	"	"	"	"	"	"	+voice	"		"		[kə(p:ɷs)] 42
												[kə(t:ɷs)] 43
												[cɷ(k:ɷs)] 44

ɸ (contd)

[ø̞s]	occ.	+non-ret.	+vless.	+short.	vow.	+back.	+voice	+short.	fric.		[jo(tø̞s)]	45
											[ro(kø̞s)]	46
											[we(cø̞s)]	47
	"	"	+voice	"	"	"	"	"	"		[d̪o(bø̞s)]	48
											[pe(jø̞s')]	49
	"	"	"	+length	"	"	"	"	"		[lə(b:ø̞s)]	50
											[lə(d:ø̞s)]	51
											[t̪hə(g:ø̞s)]	52
											[wə(j:ø̞s)]	53

[ya]	plos.	+ret.	+voice	+length					vow.	+open/half-open	+voice+length	[khe(d̪:a)][1] 54
	"	"	+vless.	"					"	"	" "	[mu(t̪:a)] 55
	"	"	"	"					"	"	+p-vless. "	[ø̞(t̪:ha)] 56
	öcc.	+non-ret."		"					"	"	" "	[lτ(p:ha)] 57
												[cτ(t:ha)] 58
												[rɔ(k:ha)] 59
												[kə(c:ha)] 60

1. For verbs containing inflexion ɛ see examples 54a to 68a page 117

p (Contd.)

[ya]	occ.	+non-ret.	+vless.	+length		vow.	+open./ half-open.	+voice	+length	[kə(p:a)]	61
										[kə(t:a)]	62
										[ro(k:a)]	63
										[nə(c:a)]	64
	"	"	+voice	"		"	"	"	"	[lə(b:a)]	65
										[lə(d:a)]	66
										[ja(g:a)]	67
										[pe(j:a′)]	68
[ʷa]	plos.	+ret.	+voice	+length		vow.	+open./ half-close.	+voice	+length+nas.[1]	[khe(d̲:ã)]	69
	"	"	+vless.	"		"	"	"	"	[mu(t̲:ã)]	70
	"	"	+vless	"		"	"	+p-vless.	"	[ɑ(t̲:ⁿã)]	71
	occ.	+non-ret.	"	"		"	"	"	"	[lτ(p:ⁿã)]	72
										[cτ(t:ⁿã)]	73
										[rə(k:ⁿã)]	74
										[kə(c:ⁿã)]	75

1. For verbs containing inflexion ẽ see examples 69a to 83a page 117

p (contd.)

[w̃ã]	ooc.	+non-ret.	+vless.	+length	vow.	+open/half-open	+voice	+length	+nas.	[kə(p:ã)]	76
										[kə(t:ã)]	77
										[ro(k:ã)]	78
										[nə(c:ã)]	79
	"	"	+voice	"	"	"	"	"	"	[lə(b:ã)]	80
										[lə(d:ã)]	81
										[ja(g:ã)]	82
										[pe(j:ã′)]	83
[we]	plos.	+ret.	"	"	vow.	+half-close	+voice	+length		[kh(d:e)]	84
	"	"	+vless.	"	"	"	"	"		[mu(t:e)]	85
	"	"	"	"	"	"	+p-vless.	"		[ɷ(t:he)]	86
	occ.	+non-ret.	"	"	"	"	"	"		[lɪ(p:he)]	87
										[cɪ(t:he)]	88
										[rə(k:he)]	89
										[kə(c:he)]	90

p (Contd.)

[we]	occ.	+non-ret.	+vless.	+length		vow.	+half-close.	+voice	+length[1]	[kə(p:e)]	91
										[kə(t:e)]	92
										[ro(k:e)]	93
										[nə(c:e)]	94
	"	"	+voice	"		"	"	"	"	[lə(b:e)]	95
										[lə(d:e)]	96
										[ja(g:e)]	97
										[pe(j:e′)]	98

1. For verbs containing inflexion ˙o see examples 84a to 98a page 117

ɸ (Contd.)

i]	plos.	+ret.	+voice	+length		vow.	+close.	+front.	+voice	+length	[khe(d:i)] 99
	"	"	vless.	"		"	"	"	"	"	[mu(t:i)] 100
	"	"	"	"		"	"	"	p-vless.	"	[ɔ(t:hi)] 101
	occ.	+non-ret.	"	"		"	"	"	"	"	[lɪ(p:hi)] 102
											[cɪ(t:hi)] 103
											[rə(k:hi)] 104
											[kə(c:hi)] 105
	"	"	"	"		"	"	"	voice	"	[kə(p:i)] 106
											[kə(t:i)] 107
											[ro(k:i)] 108
											[nə(c:i)] 109
	"	"	voice	"		"	"	"	"	"	[lə(b:i)] 110
											[lə(d:i)] 111
											[jə(g:i)] 112
											[ɒe(j:i′)] 113

p (Contd.)

[nã]	plos.	+ret.	+voice	+short.	vow.	+cent.	+voice	+ short.	nas.	+ alv.	[khe(d̲ən)ã]	114
	"	"	"	+length	"	"	"	"	"	"	[kə(d̲:ən)ã]	115
	"	"	+vless.	+short.	"	"	"	"	"	"	[mu(t̲ən)ã]	116
	"	"	"	+length	"	"	"	"	"	"	[kɔ(t̲:ən)ã]	117
	"	"	"	"	"	"	+p-vless.	"	"	"	[ɔ(t̲:hən)ã]	118
	occ.	+non-ret.	"	"	"	"	"	"	"	"	[lɾ(p̲:hən)ã]	119
											[cɾ(t:hən)ã]	120
											[rə(k:hən)ã]	121
											[kə(c:hən)ã]	122
	"	"	"	"	"	"	+voice	"	"	"	[kə(p̲:ən)ã]	123
											[kə(t:ən)ã]	124
											[cɔ(k:ən)ã]	125
											[nə(c:ən)ã]	126
	"	"	"	+short.	"	"	"	"	"	"	[jo(tn)ã]	127
											[ro(kn)ã]	128
											[we(cn)ã]	129

p (Contd.)

[nã]	occ. + non-ret. + voice + length	vow. +cent. +voice +short.	nas. + alv.	[də(b:ən)ã]	130
				[lə(d:ən)ã]	131
				[t̲hə(g:ən)ã]	132
				[wə(j:ən)ã]	133
	" " " + short.		" "	[d̲o(bn)ã]	134
				[ja(gn)ã]	135
				[pe(jn)ã′]	136

Supplementary examples:

54a.	[khe(d̲:ɛ)]	55a.	[mu(t̲:ɛ)]
56a.	[ɷ(t̲:hɛ)]	57a.	[lɪ(p:hɛ)]
58a.	[cɪ(t:hɛ)]	59a.	[rə(k:hɛ)]
60a.	[kə(c:hɛ)]	61a.	[kə(p:ɛ)]
62a.	[kə(t:ɛ)]	63a.	[ro(k:ɛ)]
64a.	[nə(c:ɛ)]	65a.	[lə(b:ɛ)]
66a.	[lə(d:ɛ)]	67a.	[ja(g:ɛ)]
68a.	[pe(j:ɛ′)]	69a.	[khe(d̲:ɛ̃)]
70a.	[mu(t̲:ɛ̃)]	71a.	[ɷ(t̲:hɛ̃)]
72a.	[lɪ(p:hɛ̃)]	73a.	[cɪ(t:hɛ̃)]
74a.	[rə(k:hɛ̃)]	75a.	[kə(c:hɛ̃)]
76a.	[kə(p:ɛ̃)]	77a.	[kə(t:ɛ̃)]
78a.	[ro(k:ɛ̃)]	79a.	[nə(c:ɛ̃)]
80a.	[lə(b:ɛ̃)]	81a.	[lə(d:ɛ̃)]
82a.	[ja(g:ɛ̃)]	83a.	[pe(j:ɛ̃′)]
84a.	[khe(d̲:o)]	85a.	[mu(t̲:o)]
86a.	[ɷ(t̲:ho)]	87a.	[lɪ(p:ho)]
88a.	[cɪ(t:ho)]	89a.	[rə(k:ho)]
90a.	[kə(c:ho)]	91a.	[kə(p:o)]
92a.	[kə(t:o)]	93a.	[ro(k:o)]
94a.	[nə(c:o)]	95a.	[lə(b:o)]
96a.	[lə(d:o)]	97a.	[ja(g:o)]
98a.	[pe(j:o′)]		

7.1121 h / h̄ System.

It will be seen from the statement of exponency of the p (7.112) that in one type of p- syllable voicelessness [h] in the initial part of the vowel of an inflexion syllable initial or in the initial part of the element [ə ə̃ ɷ] of the junction of verb-root and inflexion is associated with voicelessness in the final consonant of root syllable : e.g.

[rə(k:ha)], [ɷ(t:həd)i], [rə(k:ñə̃r̃)ã], [rə(k:hɷs)]

This may be contrasted with the remaining type of p syllable in which full voice in a vowel following final consonant of the root syllable is linked to voice or voicelessness in final consonant of the root syllable as an alternative feature; e.g.

[ro(k:a)], [kə(j:a)], [kɷ(t:əd)i], [ɷ(d:əd)i],

[kə(p:ə̃r̃)ã], [lə(b:ə̃r̃)ã],[kə(p:ɷs)], [lə(b:ɷs)].

In order to account for the consonant-vowel relationship a two-term (h / h̄) prosodic system is stated here for the p. The two terms of the system are named h (after partial voicelessness in the vowel) and non-h (h̄).

7.11211 The phonetic exponents of h and h̄

The phonetic exponents of h (7.112111) and h̄ (7.112112) are as follows:

12111 h

[di]	plos.	+ret.	+vless.	+length	vow.	+cent.	+p-vless.	+short.	plos.	+voice	[ɒ(t̲:həd)i]	1
	occ.	+non-ret.	"	+short.					"	"	[ɪɾ(pd)i]	2
											[rə(kd)i]	3
											[kə(cd)i]	4
	"	"	+voice	"					"	"	[cɾ(dd)i]	5
[r̲ə]	plos.	+ret.	+vless.	+length	vow.	+cent.	+p-vless.	+short. +nas.	nas.	+ret.	[ɒ(t̲:nəɾ̲)ə]	6
	occ.	+non-ret.	"	"	"	"	"	"	"	"	[ɪɾ(p:nəɾ̲)a]	7
											[cɾ(t:nəɾ̲)ə]	8
											[rə(k:nəɾ̲)ə]	9
											[kə(c:nəɾ̲)ə]	10
[ɒs]	occ.	non-ret.	+vless.	+length	vow.+back		+p-vless.	+short.	fric.		[cɾ(t:hɒs)]	11
											[rə(k:hɒs)]	12
											[kə(c:hɒs)]	13

h (Contd.)

[ɣa]	plos. +ret. +vless. +length	vow.+open/half-open. +length+p-vless.[1]	[ɑ(t̲:ha)] 14
	occ. +non-ret. " "	" " " "	[lτ(p:haˇ)] 15
			[cτ(t:haˇ)] 16
			[rə(k:haˇ)] 17
			[kə(c:haˇ)] 18
[ɰ̃ã]	plos. +ret. +vless. +length	vow. +open./half-close. +length +p-vless. +nas.[2]	[ɑ(t̲:ɲãˇ)] 19
	occ. +non-ret. " "	" " "	[lτ(p:ɲãˇ)] 20
			[cτ(t:ɲãˇ)] 21
			[rə(k:ɲãˇ)] 22
			[kə(c:ɲãˇ)] 23
[ɣe]	plos. +ret +vless. +length	vow. +half-close. +length+p-vless.[3]	[ɑ(t̲:heˇ)] 24
			[lτ(p:heˇ)] 25
			[cτ(t:heˇ)] 26
			[rə(k:heˇ)] 27
			[kə(c:heˇ)] 28

1. For verbs containing inflexion ɛ see examples 14a to 18a page 121
2. " " " " ɛ̃ " " 19a to 23a page 121
3. " " " " o " " 24a to 28a page 121

h (contd.)

[hi]	plos. + ret.	+vless. +length		vow. +close. +front. + p-vless. +length	[ɑ(t̲:hi)]	29
	occ. + non-ret.	" "		" " "	[lτ(p:hi)]	30
					[cτ(t:hi)]	31
					[rə(k:hi)]	32
					[kə(c:hi)]	33
[nã]	plos. + ret.	" "	vow. +p-vless.	nas. +alv.	[ɑ(t̲:hən)ã]	34
					[lτ(p:hən)ã]	35
					[cτ(t:hən)ã]	36
					[rə(k:hən)ã]	37
					[kə(c:hən)ã]	38

Supplementary examples:

14a.	[ɑ(t̲:hɛ)]	15a.	[lτ(p:hɛ)]	16a.	[cτ(t:hɛ)]	17a.	[rə(k:hɛ)]	18a.	[kə(c:hɛ)]
19a.	[ɑ(t̲:hẽ)]	20a.	[lτ(p:hẽ)]	21a.	[cτ(t:hẽ)]	22a.	[rə(k:hẽ)]	23a.	[kə(c:hẽ)]
24a.	[ɑ(t̲:ho)]	25a.	[lτ(p:ho)]	26a.	[cτ(t:ho)]	27a.	[rə(k:ho)]	28a.	[kə(c:ho)]

h̄

[di]	plos.	+ret.	+voice	+short.	vow. + voice	.	plos.	+voice	[khe(d̲əd)i]	1
	"	"	"	+length	"	"	"	"	[kə(d̲:əd)i]	2
	"	"	∓less.	+short.	"	"	"	"	[mu(t̲əd)i]	3
	"	"	"	+length	"	"	"	"	[kɒ(t̲:əd)i]	4
	occ.	+non-ret.	"	+short.			"	"	[k̲ə(pd)i]	5
									[r̥ɒ(kd)i]	6
									[we(cd)i]	7
	"	"	+voice	"			"	"	[lə(bd)i]	8
									[lə(dd)i]	9
									[ja(gd)i]	10
									[pe(jd)i']	11
[x̲ə]	plos.	+ret.	+voice	+short	vow. + voice	.	nas.	+ret.	[khe(d̲əx̲)ə]	12
	"	"	"	+length	"	"	"	"	[kə(d̲:əx̲)ə]	13
	"	"	+vless.	+short	"	"	"	"	[mu(t̲əx̲)ə]	14
	"	"	"	+length	"	"	"	"	[kɒ(t̲:əx̲)ə]	15
	occ.	+non-ret.	"	"	"	"	"	"	[kə(p:əx̲)ə]	16
									[kə(t:əx̲)ə]	17
									[cɒ(k:əx̲)ə]	18
									[nə(c:əx̲)ə]	19

[r̲ə] (Contd.)

[r̲ə]	occ.	+non-ret.	+vless.	+short.	vow.	+voice		nas.	+ret.	[jo(tər̲)ə]	20
										[ro(kər̲)ə]	21
										[we(cər̲)ə]	22
	"	"	+voice	+length	"	"		"	"	[də(b:ər̲)ə]	23
										[lə(d:ər̲)ə]	24
										[t̲hə(g:ər̲)ə]	25
										[wə(j:ər̲)ə]	26
	"	"	"	+short.	"	"		"	"	[d̲o(bər̲)ə]	27
										[ja(gər̲)ə]	28
										[pe(jər̲)ə′]	29
[ɷs]	plos.	+ret.	+voice	+length.	vow.	+voice		fric.		[kə(d̲:ɷs)]	30
	"	"	+vless.	+"	"	"		"		[kɷ(t̲:ɷs)]	31
	"	"	"	+short.	"	"		"		[mu(t̲ɷs)]	32
	occ.	+non-ret.	"	+length	"	"		"		[kə(p:ɷs)]	33
										[kə(t:ɷs)]	34
										[cɷ(k:ɷs)]	35

h (Contd.)

[ʂs]	occ.	+non-ret.	+vless.	+short.	vow.	+voice	fric.	[jo(tøs)]	36
								[ro(køs)]	37
								[we(cøs)]	38
	"	"	+voice	"	"	"	"	[ḏo(bøs)]	39
								[pe(jøs)]	40
	"	"	"	+length	"	"	"	[lə(b:øs)]	41
								[lə(d:øs)]	42
								[t̲hə(g:øs)]	43
								[wə(j:øs)]	44
[ɣa]	plos.	+ret.	+voice	+length	vow.	+open/half-open	+voice	+length[1]	[khe(d̲:a)] 45
	"	"	+vless.+"		"	"	"	"	[mu(t̲:a)] 46
	occ.	+non-ret.	"	"	"	"	"	"	[kə(p:a)] 47
									[kə(t:a)] 48
									[ro(k̲:a)] 49
									[nə(c:a)] 50

1. For verbs containing inflexion ɛ see examples 45a to 54a page 129

I (Contd.)

[ya] occ. +non-ret. +voice +length	vow. +open/half-open. +voice+length	[lə(b:a)]	51
		[lə(d:a)]	52
		[ja(g:a)]	53
		[pe(j:á)]	54
[w̃ã] plos. +ret. +voice +length	vow. +open/half-close. +voice+length+nas.[1]	[khe(d̲:ã)]	55
" " +vless: "	" " " " "	[mu(t̲:ã)]	56
occ. +non-ret. " "	" " " " "	[kə(p:ã)]	57
		[kə(t:ã)]	58
		[ro(k:ã)]	59
		[nə(c:ã)]	60
" " +voice "	" " " " "	[lə(b:ã)]	61
		[lə(d:ã)]	62
		[ja(g:ã)]	63
		[pe(j:ã)]	64

1. For verbs containing inflexion ẽ see examples 55a to 64b page 129

ẽ (contd.)

[we]	plos.	+ret.	+voice	+length		vow.	+half-close.	+voice	+length	[khe(d:e)][1]	65
	"	"	+vless.+	"		"	"	"	"	[mu(t:e)]	66
	occ.	+non-ret.	+ "	"		"	"	"	"	[kə(p:e)]	67
										[kə(t:e)]	68
										[ro(k:e)]	69
										[nə(c:e)]	70
	"	"	+voice	"		"	"	"	"	[lə(b:e)]	71
										[lə(d:e)]	72
										[ja(g:e)]	73
										[pe(j:e′)]	74

1. For verbs containing inflexion o see examples 65a to 74a page 129

[hi]	plos.	+ ret.	+ voice	+ length	vow.	+ close.	+ front.	+voice	+length	[khe(d̲:i)]	75
	"	"	vless.	"	"	"	"	"	"	[mu(t̲:i)]	76
	occ.	+non-ret.	"	"	"	"	"	"	"	[kə(p:i)]	77
										[kə(t:i)]	78
										[ro(k:i)]	79
										[nə(c:i)]	80
	"	"	voice	"	"	"	"	"	"	[lə(b:i)]	81
										[lə(d:i)]	82
										[ja(g:i)]	83
										[ɲe(j:i′)]	84

[ñã] (Contd.)

[nã]	plos.	+ ret.	+ voice	+ short.	vow.	+voice	nas. + alv.	[khe(dən)ã] 85
	"	"	"	length	"	"	" "	[kə(d:ən)ã] 86
	"	"	vless.	+ short.	"	"	" "	[mu(tən)ã] 87
	"	"	"	length	"	"	" "	[kɔ(t:ən)ã] 88
	occ.	+ non-ret.	"	"	"	"	" "	[kə(p:ən)ã] 89
								[kə(t:ən)ã] 90
								[cɔ(k:ən)ã] 91
								[nə(c:ən)ã] 92
	"	"	"	short.			" "	[jo(tn)ã] 93
								[ro(kn)ã] 94
								[we(cn)ã] 95
	"	"	+ voice	+ length	"	"	" "	[də(b:ən)ã] 96
								[lə(d:ən)ã] 97
								[thə(g:ən)ã] 98
								[wə(j:ən)ã] 99
	"	"	"	short.			" "	[do(bn)ã] 100
								[ja(gn)ã] 101
								[pe(jn)ã'] 102

Supplementary examples:

45a.	[khe(d̲:ɛ)]	46a.	[mu(t̲:ɛ)]
47a.	[kə(p:ɛ)]	48a.	[kə(t:ɛ)]
49a.	[ro(k:ɛ)]	50a.	[nə(c:ɛ)]
51a.	[lə(b:ɛ)]	52a.	[lə(d:ɛ)]
53a.	[ja(g:ɛ)]	54a.	[pe(j:ɛ′)]
55a.	[khe(d̲:ɛ̃)]	56a.	[mu(t̲:ɛ̃)]
57a.	[kə(p:ɛ̃)]	58a.	[kə(t:ɛ̃)]
59a.	[ro(k:ɛ̃)]	60a.	[nə(c:ɛ̃)]
61a.	[lə(b:ɛ̃)]	62a.	[lə(d:ɛ̃)]
63a.	[ja(g:ɛ̃)]	64a.	[pe(j:ɛ̃′)]
65a.	[khe(d̲:o)]	66a.	[mu(t̲:o)]
67a.	[kə(p:o)]	68a.	[kə(t:o)]
69a.	[ro(k:o)]	70a.	[nə(c:o)]
71a.	[lə(b:o)]	72a.	[lə(d:o)]
73a.	[ja(g:o)]	74a.	[pe(j:o′)]

The phonetic exponents of h and $\bar{h}$ stated above show that some of the h type of root syllables (examples 2 to 5 (7.112111)) are not distinguished in [di] piece from some of the $\bar{h}$ type of root syllables (examples 5, 6, 7, 9 (7.112112)) but they are distinguishable from each other in the remaining 7 types of piece.

7.1122 v / $\bar{v}$ System.

It will be seen from the exponency of the p that in one type of p syllable voice in a final consonant of root syllable is linked to voice in a following vowel; e.g.

[kə(j:a)], [ɑ(d̲:əd)i], [lə(b:ə̃r̲)ã], [lə(b:ɑs)].

This may be contrasted with the remaining type of the p syllable in which voicelessness in a final consonant of root syllable is associated with voice or partial voicelessness in a following vowel; e.g.

[ro(k:a)], [rə(k:ha)], [kɑ(t̲:əd)i], [ɑ(t̲:həd)i]

[ro(kə̃r̲)ã], [rə(k:ñə̃r̲)ã], [ro(kɑs)], [rə(k:hɑs)].

In order to account for the consonant-vowel relationship stated above a further two-term (v / $\bar{v}$) System is stated here for the p. The 2 terms of the system are named v (after voice in final consonant) and non-v ($\bar{v}$).

7.11221 The phonetic exponents of the v and the $\bar{v}$.

The phonetic exponents of the v (7.112211) and the $\bar{v}$ (7.112212) are as follows:

.112211 V

[di]	plos.	+ret.	+voice	+short.	vow.	+voice		plos.	+voice	[khe(d̲əd)i]	1
	"	"	"	length	"	"		"	"	[kə(d̲:əd)i]	2
	occ.	+non-ret.	"	short.				"	"	[lə(bd)i]	3
										[lə(dd)i]	4
										[ja(gd)i]	5
										[pe(jd)i′]	6
[r̲ã]	plos.	+ret.	+voice	+short.	vow.	+voice		nas.	+ret.	[khe(d̲ər̲)ã]	7
	"	"	"	length	"	"		"	"	[kə(d̲:ər̲)ã]	8
	occ.	+non-ret.	"	"	"	"		"	"	[də(b:ər̲)ã]	9
										[lə(d:ər̲)ã]	10
										[t̲hə(g:ər̲)ã]	11
										[wə(j:ər̲)ã]	12
	"	"	"	short.	"	"		"	"	[d̲o(bər̲)ã]	13
										[ja(gər̲)ã]	14
										[pe(jər̲)ã′]	15

V (Contd.)

[ɔs]	plos.	+ ret.	+ voice	+ length	vow.	+ voice	fric.	[kə(d:ɔs)
	occ.	+ non-ret.	"	short	"	"	"	[do(bɔs)]
								[pe(jɔs')]
	"	"	"	length	"	"	"	[lə(b:ɔs)]
								[lə(d:ɔs)]
								[thə(g:ɔs)]
								[wə(j:ɔs)]
[ya]	plos.	+ret.	+voice	+length			vow.+open/half-open	+voice +length[1] [khe(d:a)]
	occ.	+non-ret.	"	"			"	" " [lə(b:a)]
								[lə(d:a)]
								[ja(g:a)]
								[pe(j:á)]

1. For verbs containing inflexion ɛ see examples 23a to 27a page 134

v (Contd.)

[w̃ã]	plos. + ret. + voice + length	vow.+open/half-close.+voice+length+nas.[1]	[khe(d̲:ã)] 28
	occ. + non-ret. + " "	" " " " " "	[lə(b:ã)] 29
			[lə(d:ã)] 30
			[ja(g:ã)] 31
			[pe(j:ã′)] 32
[we]	plos. + ret. + voice + length	vow.+ half-close.+ voice + length[2]	[khe(d̲:e)] 33
	occ. + non-ret. " "	" " " "	[lə(b:e)] 34
			[lə(d:e)] 35
			[ja(g:e)] 36
			[pe(j:e′)] 37
[hi]	plos. + ret. + voice + length	vow. + close.+front. +voice +length	[khe(d̲:i)] 38
	occ. + non-ret. " "	" " " " "	[lə(b:i)] 39
			[lə(d:i)] 40
			[ja(g:i)] 41
			[pe(j:i′)] 42

1. For verbs containing inflexion ̃e see examples 28a to 32a page 134
2. " " " " ̃o " " 33a to 37a page 134

V (Contd.)

[nã]	plos.+ret.	+voice	+short.	vow.	+voice.	nas.+alv.	[khe(d̲ən)ã]	43
	" "	"	length	"	"	" "	[kə(d̲:ən)a]	44
	occ. +non-ret.	"	"	"	"	" "	[lə(b:ən)ã]	45
							[lə(d:ən)ã]	46
							[t̲hə(g:ən)ã]	47
							[wə(j:ən)ã]	48
	" "	"	short.			" "	[d̲o(bn)ã]	49
							[ja(gn)ã]	50
							[pe(jn)ã′]	51

§upplementary examples:

23a.	[khe(d̲:ɛ)]	24a.	[lə(b:ɛ)]	25a.	[lə(d:ɛ)]	26a.	[ja(g:ɛ)]	27a.	[pe(j:ɛ′)]
28a.	[khe(d̲:ẽ)]	29a.	[lə(b:ẽ)]	30a.	[lə(d:ẽ)]	31a.	[ja(g:ẽ)]	32a.	[pe(j:ẽ́)]
33a.	[khe(d̲:o)]	34a.	[lə(b:o)]	35a.	[lə(d:o)]	36a.	[ja(g:o)]	37a.	[pe(j:o′)]

7.112212

$\bar{v}$

[di]	plos.	+ ret.	+ vless.	+ short.	vow.	+ voice	plos.	[mu(t̲əd)i] 1
	"	"	"	length	"	"	"	[kɔ(t̲:əd)i] 2
	"	"	"	"	"	p-vless.	"	[ɔ(t̲:həd)i] 3
	occ.	non-ret.	"	short.			"	[lτ(pd)i] 4
								[ro(kd)i] 5
	"	"	+voice	"			"	[we(cd)i] 6 [jo(dd)i] 6a
[r̲ã]	plos.	+ ret.	"	"	vow.	voice	nas.	+ret. [mu(t̲ər̲)ã] 7
	"	"	"	length	"	"	"	" [kɔ(t̲:ər̲)ã] 8
	"	"	"	"	"	p-vless.	"	" [ɔ(t̲:ñər̲)ã] 9
	occ.	+ non-ret.	"	"	"	"	"	" [lτ(p:ñər̲)ã] 10
								[cτ(t:ñər̲)ã] 11
								[rə(k:ñər̲)ã] 12
								[kə(c:ñər̲)ã] 13
	"	"	"	"	"	+ voice	"	" [kə(p:ər̲)ã] 14
								[kə(t:ər̲)ã] 15
								[cɔ(k:ər̲)ã] 16
								[nə(c:ər̲)ã] 17

$\bar{V}$ (Contd.)

[r̲ã]	occ.	+non-ret.	+vless.	+short.	vow.	+voice	nas. +ret.	[jo(tər̲)ã]	18
								[ro(kər̲)ã]	19
								[we(cər̲)ã]	20
[ɔs]	plos.	+ret.	+vless.	+short.	vow.	+voice	fric.	[mu(t̲ɔs]	21
	"	"	"	length	"	"	"	[kɔ(t̲:ɔs]	22
	occ.	+non-ret.	"	"	"	+p-vless.	"	[cɪ(t:hɔs)]	23
								[rə(k:hɔs)]	24
								[kə(c:hɔs)]	25
	"	"	"	"	"	+voice	"	[kə(p:ɔs)]	26
								[kə(t:ɔs)]	27
								[cɔ(k:ɔs)]	28
	"	"	"	+short.	"	"	"	[jo(tɔs)]	29
								[ro(kɔs)]	30
								[we(cɔs)]	31

7 (Contd.)

[ya]	plos. + ret. + vless. + length	vow.+open/half-open.+voice+length[1]	[mu(t̲:a)]	32
	" " " "	" " " +p-v̈less."	[ɑ(t̲:ha)]	33
	ɓɗɕ: + non-ret. " "	" " " " "	[lτ(p:ha)]	34
			[cτ(t:ha)]	35
			[rə(k:ha)]	36
			[kə(c:ha)]	37
	" " " "	" " " +voice+ "	[kə(p:a)]	38
			[kə(t:a)]	39
			[ro(k:a)]	40
			[nə(c:a)]	41

1. For verbs containing inflexion ɛ . see examples 32a to 41a page 142

$\tilde{v}$ (contd.)

| | | |

$\bar{V}$ (Contd.)

[we]	plos.+ret. +vless.+length		vow.+half-close.+voice+length[1]	[mu(t:e)]	52
	" " " "		" " +p-vless.+ "	[ɑ(t:he)]	53
	occ. +non-ret " "		" " " "	[lτ(p:he)]	54
				[cτ(t:he)]	55
				[rə(k:he)]	56
				[kə(c:he)]	57
	" " " "		" " +voice "	[kə(p:e)]	58
				[kə(t:e)]	59
				[ro(k:e)]	60
				[nə(c:e)]	61

1. For verbs containing inflexion 'o' see examples 52a to 61a page 142

$\bar{v}$ (contd.)

| | | |

V (Contd.)

[nã]	plos.	+ret.	+vless.	+short.	vow.	+voice	nas.	+alv.	[mu(t̪ən)ã]	72
	"	"	"	+length	"	"	"	"	[kɑ(t̪:ən)ã]	73
	"	"	"	"	"	+p-vless.	"	"	[ɑ(t̪:hən)ã]	74
	occ.	+non-ret.	"	"	"	"	"	"	[lɾ(p:hən)ã]	75
									[cɾ(t:hən)ã]	76
									[rə(k:hən)ã]	77
									[kə(c:hən)ã]	78
	"	"	"	"	"	+voice	"	"	[kə(p:ən)ã]	79
									[kə(t:ən)ã]	80
									[cɔ(k:ən)ã]	81
									[nə(c:ən)ã]	82
	"	"	"	+short.			"	"	[jo(tn)ã]	83
									[ro(kn)ã]	84
									[we(cn)ã]	85

Supplementary examples:

32a.	[mu(t̲:ɛ)]	33a.	[ɷ(t̲:hɛ)]
34a.	[lɪ(p:hɛ)]	35a.	[cɪ(t:hɛ)]
36a.	[rə(k:hɛ)]	37a.	[kə(c:hɛ)]
38a.	[kə(p:ɛ)]	39a.	[kə(t:ɛ)]
40a.	[ro(k:ɛ)]	41a.	[nə(c:ɛ)]
42a.	[mu(t̲:ɛ̃)]	43a.	[ɷ(t̲:hɛ̃)]
44a.	[lɪ(p:hɛ̃)]	45a.	[cɪ(t:hɛ̃)]
46a.	[rə(k:hɛ̃)]	47a.	[kə(c:hɛ̃)]
48a.	[kə(p:ɛ̃)]	49a.	[kə(t:ɛ̃)]
50a.	[ro(k:ɛ̃)]	51a.	[nə(c:ɛ̃)]
52a.	[mu(t̲:o)]	53a.	[ɷ(t̲:ho)]
54a.	[lɪ(p:ho)]	55a.	[cɪ(t:ho)]
56a.	[rə(k:ho)]	57a.	[kə(c:ho)]
58a.	[kə(p:o)]	59a.	[kə(t:o)]
60a.	[ro(k:o)]	61a.	[nə(c:o)]

The phonetic exponents of v and $\bar{v}$ stated above show that one of the v type of root syllable (example 4, 7.112211)) is not distinguished from a $\bar{v}$ type of root syllable (example 6a, 7.112212)) in the [di] piece. They, however, are distinguishable in the remaining types of piece.

7.1123 r/$\bar{r}$ System

It will be seen from the phonetic exponents of the p (7.12) that in one type of p syllable the element [ə hə] of the junction of root and an inflexion in the [di] and [nã] types of piece is associated with retroflexion in the final consonant of the root syllable and with an initial consonant in the inflexion syllable; e.g.

[kɷ(t̲:əd)i], [kɷ(t̲:ən)ã], [ɷ(t̲:həd)i], [ɷ(t̲:hən)ã]

The presence of the junction element [ə hə] or in other words the sequence [-CVC-] at the junction of the root and the inflexion in the 2 types of piece stated above in the type of p syllable illustrated above may be contrasted with the remaining type of p syllable which is characterized by the sequence [-CC-] at the junction of the root and the inflexion in the same two types of piece. In the later type of p-piece syllable the sequence [-CC-] is linked to non-retroflexion in the final consonant of the root syllable and to the initial consonant in the inflexion syllable; e.g.

[ro(kd)i], [ro(kn)ã], [we(cd)i], [we(cn)ã]

In order to deal with the syntagmatic relationships stated above a two-term (r/$\bar{r}$) prosodic system is set up here for the p. The 2 terms of the system are named r (after retroflexion) and non-r ($\bar{r}$).

7.112311 The phonetic exponents of r and $\bar{r}$.

The phonetic exponents of r (7.112311) nad $\bar{r}$ (7.112312) are as follows:

r

[di]	plos.	+ret.	+voice	+short.	vow.	plos.	+voice	[khe(d̲əd)i]	1
	"	"	"	+length	"	"	"	[kə(d̲:əd)i]	2
	"	"	+vless.	+short.	"	"	"	[mu(t̲əd)i]	3
	"	"	"	+length	"	"	"	[kɒ(t̲:əd)i]	4
	"	"	"	"	"	"	"	[ɒ(t̲:həd)i]	5
[r̲ə]	"	"	+voice	+short.	"	nas.	+ret.	[khe(d̲ər̲)ə̃]	6
	"	"	"	+length	"	"	"	[kə(d̲:ər̲)ə̃]	7
	"	"	+vless.	+short.	"	"	"	[mu(t̲ər̲)ə̃]	8
	"	"	"	+length	"	"	"	[kɒ(t̲:ər̲)ə̃]	9
	"	"	"	"	"	"	"	[ɒ(t̲:h̃ər̲)ə̃]	10
[ɒs]	"	"	+voice	+length	vow.	fric.		[kə(d̲:ɒs)]	11
	"	"	+vless.	"	"	"		[kɒ(t̲:ɒs)]	12
	"	"	"	+short.	"	"		[mu(t̲ɒs)]	13

r (Contd.)

[ʻa]	plos.	+ret.	+voice	+length	vow.+open/half-open	+voice +length[1]	[khe(d:a)] 14
	"	"	+vless.	"	"	" "	[mu(t:a)] 15
	"	"	"	" "	"	+p-vless. "	[ɷ(t:ha)] 16
[ɲã]	"	"	+voice	+length	vow.+open/half-close	+voice +length +nas.[2]	[khe(d:ã)] 17
	"	"	+vless.+	"	"	" " "	[mu(t:ã)] 18
	"	"	"	"	"	+p-vless. " "	[ɷ(t:ɲã)] 19
[ɛ]	"	"	+voice	"	vow. +half-close.	+voice +length[3]	[khe(d:e)] 20
	"	"	+vless.	"	"	" "	[mu(t:e)] 21
	"	"	"	"	"	+p-vless. "	[ɷ(t:he)] 22

1. For verbs containing inflexion ɛ see examples 14a to 16a page 147
2. " " " " ɛ̃ " " 17a to 19a page 147
3. " " " " ɔ " " 20a to 22a page 147

r (Contd.)

| | | |

..12312 r̄

[di]	occ.	+non-ret.	+vless.	+short.		-	—	—	plos.+voice	[lτ(pd)i]	1
										[ro(kd)i]	2
										[we(cd)i]	3
	"	"	+voice	"		-	—	—	" "	[lə(bd)i]	4
										[lə(dd)i]	5
										[ja(gd)i]	6
										[pe(jd)i′]	7
	"	"	+vless.+length		vow.	+p-vless.	+short.	+nas.	nas. +ret.	[lτ(p:hər̄)ă]	8
										[cτ(t:ɲər̄)ă]	9
										[rə(k:ɲər̄)ă]	10
										[kə(c:ɲər̄)ă]	11
	"	"	"	"	"	+voice	"	"	" "	[kə(p:ər̄)ă]	12
										[kə(t:ər̄)ă]	13
										[cɷ(k:ər̄)ă]	14
										[nə(c:ər̄)ă]	15

r̄ (Contd.)

[r̄ă]	occ.	+non-ret.	+vless.	+short.	vow.	nas. + ret.	[jo(tər̄)ă] 16
							[ro(kər̄)ă] 17
							[we(cər̄)ă] 18
	"	"	+voice	+length	"	" "	[də(b:ər̄)ă] 19
							[lə(b:ər̄)ă] 20
							[thə(g:ər̄)ă] 21
							[wə(j:ər̄)ă] 22
	"	"	"	+short.	"	" "	[do(bər̄)ă] 23
							[ja(gər̄)ă] 24
							[pe(jər̄)ă'] 25
[ɔs]	"	"	+vless.	+length	vow.	fric.	[cɤ(t:hɔs)] 26
							[rə(k:hɔs)] 27
							[kə(c:hɔs)] 28
	"	"	"	"	"	"	[kə(p:ɔs)] 29
							[kə(t:ɔs)] 30
							[cɔ(k:ɔs)] 31

$\bar{r}$ (Contd.)

[ɷs]	occ.	+non-ret.	+vless.	+short.	vow.		fric.	[jo(tɷs)]	32
								[ro(kɷs)]	33
								[we(cɷs)]	34
	"	"	+voice	+short.	"		"	[d̲o(bɷs)]	35
								[pe(jɷs′)]	36
	"	"	"	+length	"		"	[lə(b:ɷs)]	37
								[lə(d:ɷs)]	38
								[t̲hə(g:ɷs)]	39
								[wə(j:ɷs)]	40
[va]	"	"	+vless.	+length			vow. +open/ half-open	+p-vless. +length[1]	[lɐ(p:ha)]	41
									[cɐ(t:ha)]	42
									[rə(k:ha)]	43
									[kə(c:ha)]	44

1. For verbs containing inflexion ɛ see examples 47a to 49a page 156

F (Contd.)

[ya]	occ.	+non-ret.	+vless.	+length	vow.	+open/ half-open.	+voice	+length	[kə(p:a)] 45
									[kə(t:a)] 46
									[ro(k:a)] 47
									[nə(c:a)] 48
	"	"	+voice	"	"	"	"	"	[lə(b:a)] 49
									[lə(d:a)] 50
									[ja(g:a)] 51
									[pe(j:a′)] 52
[ɯ̃a]	"	"	+vless.	+length	vow.	+open/ half-close.	+p-vless.+length+nas.[1]		[ɪ̃ɾ(p:m̃ã)] 53
									[cɾ(t:m̃ã)] 54
									[rə(k:m̃ã)] 55
									[kə(c:m̃ã)] 56

1. For verbs containing inflexion ɛ̃ see examples 53a to 61a page 156

F (contd.)

[w̃ã]	occ.	+non-ret.	+vless.	+length	vow.	+open/ half-close	+voice	+length	+nas.	[kə(p:ã)]	57
										[kə(t:ã)]	58
										[ro(k:ã)]	59
										[nə(c:ã)]	60
	"	"	+voice	"	"	"	"	"	"	[lə(b:ã)]	61
										[lə(d:ã)]	62
										[ja(g:ã)]	63
										[pe(j:ã′)]	64
[we]	"	"	+vless.	+length	vow.	+half-close.	+p̥-vless.	+length[1]		[lɤ(p:he)]	65
										[cɤ(t:he)]	66
										[rə(k:he)]	67
										[kə(c:he)]	68
	"	"	"	"	"	"	+voice	"		[kə(p:e)]	69
										[kə(t:e)]	70
										[ro(k:e)]	71
										[nə(c:e)]	72

1. For verbs containing inflexion o see examples 65a to 76a page 156

r̄ (Contd.)

[we]	occ. +non-ret. +voice +length	vow. +half-close, +voice +length	[lə(b:e)]	73
			[lə(d:e)]	74
			[ja(g:e)]	75
			[pe(j:e′)]	76

$\bar{r}$ (contd.)

[hi]	occ.+non-ret. +vless. +length	vow. +close. +front. +p-vless. +length	[lτ(p:hi)]	77
			[cτ(t:hi)]	78
			[rə(k:hi)]	79
			[kə(c:hi)]	80
	" " " "	" " " voice "	[kə(p:i)]	81
			[kə(t:i)]	82
			[ro(k:i)]	83
			[nə(c:i)]	84
	" " voice "	" " " " "	[lə(b:i)]	85
			[lə(d:i)]	86
			[ja(g:i)]	87
			[pe(j:i′)]	89

F (Contd.)

[nã]	occ.	+non-ret.	+vless.	+length	vow.	nas. +alv.	[lt(p:hən)ã] 90
							[ct(t:hən)ã] 91
							[rə(k:hən)ã] 92
							[kə(c:hən)ã] 93
	"	"	"	"	"	" "	[kə(p:ən)ã] 94
							[kə(t:ən)ã] 95
							[cɷ(k:ən)ã] 96
							[nə(c:ən)ã] 97
	"	"	"	short.		" "	[jo(tn)ã] 98
							[ro(kn)ã] 99
							[we(cn)ã] 1
	"	"	voice	"		" "	[d̲o(bn)ã] 101
							[ja(gn)ã] 102
							[pe(jn)ã′] 103
	"	"	"	length	vow.	" "	[lə(b:ən)ã] 104
							[lə(d:ən)ã] 105
							[t̲hə(g:ən)ã] 106
							[wə(j:ən)ã] 107

Supplementary examples:

41a.	[lɪ(p:hɛ)]	42a.	[cɪ(t:hɛ)]
43a.	[rə(k:hɛ)]	44a.	[kə(c:hɛ)]
45a.	[kə(p:ɛ)]	46a.	[kə(t:ɛ)]
47a.	[ro(k:ɛ)]	48a.	[nə(c:ɛ)]
49a.	[lə(b:ɛ)]	50a.	[lə(d:ɛ)]
51a.	[ja(g:ɛ)]	52a.	[pe(j:ɛ′)]
53a.	[lɪ(p:hɛ̃)]	54a.	[cɪ(t:hɛ̃)]
55a.	[rə(k:hɛ̃)]	56a.	[kə(c:hɛ̃)]
57a.	[kə(p:ɛ̃)]	58a.	[kə(t:ɛ̃)]
59a.	[ro(k:ɛ̃)]	60a.	[nə(c:ɛ̃)]
61a.	[lə(b:ɛ̃)]	62a.	[lə(d:ɛ̃)]
63a.	[ja(g:ɛ̃)]	64a.	[pe(j:ɛ̃′)]
65a.	[lɪ(p:ho)]	66a.	[cɪ(t:ho)]
67a.	[rə(k:ho)]	68a.	[kə(c:ho)]
69a.	[kə(p:o)]	70a.	[kə(t:o)]
71a.	[ro(k:o)]	72a.	[nə(c:o)]
73a.	[lə(b:o)]	74a.	[lə(d:o)]
75a.	[ja(g:o)]	76a.	[pe(j:o′)]

It will be seen from the phonetic exponents of r (7.112311) and $\bar{r}$ (7.112312) that both r and $\bar{r}$ types of verbs have sequence of [-CVC-] at the junction of root and inflexion in [r̃ã] piece. As such they are no longer distinguished from each other through the contrast of sequence [-CVC-] and [-CC-]. However, they continue to differ from each other through the feature of retroflexion versus non-retroflexion in the final consonant of the root syllable.

7.1124 s/$\bar{s}$ System.

It will be seen from the phonetic exponents of the p term (7.112) that the final consonant of the root syllable is long in the [ya], [w̃ã], [we] and [hi] types of piece. However, in the remaining types of piece one type of p-final syllable has length in the final consonant whereas the remaining type of p-final syllable has shortness in the final consonant. The length or shortness as an alternative feature in the final consonant of the root syllable depends on the type of piece it appears in. In order to deal with this syntagmatic relationship between root syllable final and inflexion syllable initial a two-term (s/$\bar{s}$) System is stated here for the p. The 2 terms of the system are named s (after 'shortness' in final consonant of the root) and non-s ($\bar{s}$).

7.11241 The phonetic exponents of s and $\bar{s}$.

The phonetic exponents of s (7.112411) and $\bar{s}$ (7.112412) are as follows:

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[di]	plos.	+ret.	+ voice	+short.	vow.	plos. +voice	[khe(d̲əd)i] 1
	"	"	vless.	"	"	" "	[mu(t̲əd)i] 2
	occ.	+non-ret.	"	"		" "	[ro(kd)i] 3
							[we(cd)i] 4
	"	"	voice	"		" "	[do(bd)i] 5
							[jo(dd)i] 6
							[ja(gd)i] 7
							[pe(jd)i′] 8
[r̲̃ã]	plos.	+ret.	+voice	+short.	vow.	nas. +ret.	[khe(d̲ə̃r̲̃)ã] 9
	"	"	+vless.	"	"	" "	[mu(t̲ə̃r̲̃)ã] 11
	occ.	+non-ret.	"	"	"	" "	[jo(tə̃r̲̃)ã] 11
							[ro(kə̃r̲̃)ã] 12
							[we(cə̃r̲̃)ã] 13
	"	"	+voice	"	"	" "	[do(bə̃r̲̃)ã] 14
							[ja(gə̃r̲̃)ã] 15
							[pe(jə̃r̲̃)ã′] 16

5 (Contd.)

ɔs]	plos.+ret.	+vless.	+short.	vow.		fric.		[mu(tɔs)] 17
	occ. +non-ret.	"	"	"		"		[jo(tɔs)] 18
								[ro(kɔs) 19
								[we(cɔs)] 20
	" "	+voice	"	"		"		[do(bɔs)] 21
								[pe(jɔs′)] 22
[ya]	plos.+ret	+voice	+length		vow.+open/half-open.	+voice	+length[1]	[khe(d:a)] 23
	" "	vless.	"		"	"	"	[mu(t:a)] 24
	occ. +non-ret.	"	"		"	"	"	[jo(t:a)] 25
								[ro(k:a)] 26
								[we(c:a)] 27
	" "	voice	"		"	"	"	[do(b:a)] 28
								[ja(g:a)] 29
								[pe(j:a′)] 30

1. For verbs containing inflexion ɛ see examples 23a to 30a page 162

s (Contd.)

[w̃ã]	plos.	+ret.	+ voice	+ length		vow.	+ open/half-close.	+ voice	+ length	+nas.[1]	[khe(d:ã)] 31
	"	"	vless.	"		"	"	"	"	"	[mu(t:ã)] 32
	occ.	+non-ret.	"	"		"	"	"	"	"	[jo(t:ã)] 33
											[ro(k:ã)] 34
											[we(c:ã)] 35
	"	"	voice	"		"	"	"	"	"	[do(b:ã)] 36
											[ja(g:ã)] 37
											[pe(j:ã′)] 38
[we]	plos.	+ret.	+voice	+ length		vow.	+half-close.	+ voice	+ length[2]		[khe(d:e)] 39
	"	"	vless.	"		"	"	"	"		[mu(t:e)] 40
	occ.	+non-ret.	"	"		"	"	"	"		[jo(t:e)] 41
											[ro(k:e)] 42
											[we(c:e)] 43
	"	"	voice	"		"	"	"	"		[do(b:e)] 44
											[ja(g:e)] 45
											[pe(j:e′)] 46

1. For verbs containing inflexion ẽ see examples 31a to 38a page 162
2. " " " " o " " 39a to 46a page 162

s (Contd.)

[ɲi]	plos.	+ ret	+ voice	+ length		vow.	+ close.	+ front.	+ voice	+length	[kʰe(d̤:i)] 47
	"	"	vless.	"		"	"	"	"	"	[mu(t̤:i)] 48
	occ.	+ non-ret.	"	"		"	"	"	"	"	[jo(t:i)] 49
											[ro(k:i)] 50
											[we(c:i)] 51
	"	"	voice	"		"	"	"	"	"	[d̤o(b:i)] 52
											[ja(g:i)] 53
											[pe(j:i′)] 54
[nã]	plos.	+ret.	+voice	+ short.	vow.	nas.	+ alv.				[kʰe(d̤ən)ã] 55
	"	"	vless.	"	"	"	"				[mu(t̤ən)ã] 56
	occ.	+non-ret.	"	"		"	"				[jo(tn)ã] 57
											[ro(kn)ã] 58
											[we(cn)ã] 59
	"	"	voice	"		"	"				[d̤o(bn)ã] 60
											[ja(gn)ã] 61
											[pe(jn)ã′] 62

Supplementary examples:

23a.	[khe(d̲:ɛ)]	24a.	[mu(t̲:ɛ)]
25a.	[jo(t:ɛ)]	26a.	[ro(k:ɛ)]
27a.	[we(c:ɛ)]	28a.	[d̲o(b:ɛ)]
29a.	[ja(g:ɛ)]	30a.	[pe(j:ɛ′)]
31a.	[khe(d̲:ɛ̃)]	32a.	[mu(t̲:ɛ̃)]
33a.	[jo(t:ɛ̃)]	34a.	[ro(k:ɛ̃)]
35a.	[we(c:ɛ̃)]	36a.	[d̲o(b:ɛ̃)]
37a.	[ja(g:ɛ̃)]	38a.	[pe(j:e′)]
39a.	[khe(d̲:o)]	40a.	[mu(t̲:o)]
41a.	[jo(t:o)]	42a.	[ro(k:o)]
43a.	[we(c:o)]	44a.	[d̲o(b:o)]
45a.	[ja(g:ɑ)]	46a.	[pe(j:o′)]

[di]	plos.+ret.	+voice	+length	vow.	plos.+ voice	[kə(d̲əd)i] 1
	" "	vless.	"	"	" "	[kə(t̲:əd)i] 2
	occ. +non-ret.	"	+short.		" "	[kə(pd)i] 3
						[cə(kd)i] 4
						[nə(cd)i] 5
	" "	voice	"		" "	[lə(bd)i] 6
						[lə(dd)i] 7
						[t̲hə(gd)i] 8
						[wə(jd)i] 9
[r̃ã]	plos.+ret.	+voice	+length	vow.	nas. +ret.	[kə(d̲:ə r̃)ã] 10
	" "	vless.	"	"	" "	[kə(t̲:ə r̃)ã] 11
	occ. +non-ret.	"	"	"	" "	[kə(p:ə r̃)ã] 12
						[kə(t:ə r̃)ã] 13
						[cə(k:ə r̃)ã] 14
						[nə(c:ə r̃)ã] 15
	" "	voice	"	"	" "	[lə(b:ə r̃)ã] 16
						[lə(d:ə r̃)ã] 17
						[t̲hə(g:ə r̃)ã] 18
						[wə(j:ə r̃)ã] 19

5 (Contd.)

[ɔs]	plos.	+ret.	+voice+length	vow.	fric.	[kə(d:ɔs)]	20
	"	"	vless.	"	"	[kɔ(t:ɔs)]	21
	occ.	+non-ret.	"	"	"	[kə(p:ɔs)]	22
						[kə(t:ɔs)]	23
						[cɔ(k:ɔs)]	24
	"	"	voice	"	"	[lə(b:ɔs)]	25
						[lə(d:ɔs)]	26
						[thə(g:ɔs)]	27
						[wə(j:ɔs)]	28
[ya]	plos.	+ret.	+voice+length	vow. +open/half-open.	+voice+length[1]	[kə(d:a)	29
	"	"	vless.	" " " " "		[kɔ(t:a)	30
	occ.	+non-ret.	"	" " " " "		[kə(p:a)]	31
						[kə(t:a)]	32
						[cɔ(k:a)]	33
						[nəcc:a)]	34
	"	"	voice	" " " " "		[lə(b:a)]	35
						[lə(d:a)]	36
						[thə(g:a)]	37
						[wə(j:a)]	38

1. For verbs containing inflexion s e examples 20a to 38a page 169

5 (Contd.)

_w̃ã]	plos.	+ret.	+voice	+length			vow.	+open/half-close.	+voice	+length	+nas.[1]	[kə(d̲:ã)]	39
	"	"	vless.	"			"	"	"	"	"	[kɔ(t̲:ã)]	40
	occ.	+non-ret.	"	"			"	"	"	"	"	[kə(p̲:ã̃)]	41
												[kə(t̲:ã̃)]	42
												[cɔ(k:ã)]	43
												[nə(c:ã̃)]	44
	"	"	voice	"			"	"	"	"	"	[lə(b:ã̃)]	45
												[lə(d:ã)]	46
												[t̲hə(g:ã)]	47
												[wə(j:ã)]	48

1. For verbs containing inflexion ẽ see examples 39a to 48a page 169

5 (Contd.)

[we]	plos.	+ret.	+voice	+length	vow.	+half-close.	+voice	+length[1]	[kə(d:e)]	49
	"	"	vless.	"	"	"	"	"	[kə(t:e)]	50
	occ.	+non-ret.	"	"	"	"	"	"	[kə(p:e)]	51
									[kə(t:e)]	52
									[cə(k:e)]	53
									[nə(c:e)]	54
	"	"	voice	"	"	"	"	"	[lə(b:e)]	55
									[lə(d:e)]	56
									[thə(g:e)]	57
									[wə(j:e)]	58

1. For verbs containing inflexion o, see examples 49a to 58a page 169

5 (contd.)

[hi]	plos.	+ret.	+voice	+length		vow.	+close.	+front.	+voice	+length	[kə(d̲:i)]	59
	"	"	+vlëss.	"		"	"	"	"	"	[kɑ(t̲:i)]	60
	occ.	+non-ret.	"	"		"	"	"	"	"	[kə(p:i)]	61
											[kə(t:i)]	62
											[cɑ(k:i)]	63
											[nə(c:i)]	64
	"	"	+voice	"		"	"	"	"	"	[lə(b:i)]	65
											[lə(d:i)]	66
											[t̲hə(g:i)]	67
											[wə(j:i)]	68

5 (Contd.)

[nã]	plos.	+ret.	+voice	+length	vow.	nas.	+alv.	[kə(d̲:ən)ã]	69
	"	"	vless.	"	"	"	"	[kɒ(t̲:ən)ã]	70
	occ.	+non-ret.	+ "	"	"	"	"	[kə(p:ən)ã]	71
								[kə(t:ən)ã]	72
								[cɒ(k:ən)ã]	73
								[nə(c:ən)ã]	74
	"	"	+voice	"	"	"	"	[lə(b:ən)ã]	75
								[lə(d:ən)ã]	76
								[t̲hə(ɟ:ən)ã]	77
								[wə(j:ən)ã]	78

Supplementary examples:

29a.	[kə(d̲:ɛ)]	30a.	[kɷ(t̲:ɛ)]
31a.	[kə(p:ɛ)]	32a.	[kə(t:ɛ)]
33a.	[cɷ(k:ɛ)]	34a.	[nə(c:ɛ)]
35a.	[lə(b:ɛ)]	36a.	[lə(d:ɛ)]
37a.	[t̲hə(g:ɛ)]	38a.	[wə(j:ɛ)]
39a.	[kə(d̲:ɛ̃)]	40a.	[kɷ(t̲:ɛ̃)]
41a.	[kə(p:ɛ̃)]	42a.	[kə(t:ɛ̃)]
43a.	[cɷ(k:ɛ̃)]	44a.	[nə(c:ɛ̃)]
45a.	[lə(b:ɛ̃)]	46a.	[lə(d:ɛ̃)]
47a.	[t̲hə(g:ɛ̃)]	48a.	[wə(j:ɛ̃)]
49a.	[kə(d̲:o)]	50a.	[kɷ(t̲:o)]
51a.	[kə(p:o)]	52a.	[kə(t:o)]
53a.	[cɷ(k:o)]	54a.	[nə(c:o)]
55a.	[lə(b:o)]	56a.	[lə(d:o)]
57a.	[t̲hə(g:o)]	58a.	[wə(j:o)]

It will be seen from the statement of exponency of the s and the $\bar{s}$ that some of the s type of syllables (examples 3-8 and 57-62 (7.112411)) are not distinguished from some of the $\bar{s}$ type of syllables (examples 4-9 (7.112412)) in the [di] piece. It will further be observed that s and $\bar{s}$ types of syllables are not distinguishable in the [ya], [w̃ã], [we] and [hi] types of piece either. However they continue to differ from each other through length versus shortness in final consonant of the root syllable in the remaining types of piece.

TYPE OF PIECE	PHONETIC EXPONENTS			EXAMPLES[1]	S. NO.
	STEM FINAL	JUNCTION ELEMENT (IF PRESENT)	INFLEXION INITIAL		
[di]	cons. , vow.+back.+voice+short.[2] , cons.+non-ret.		plos. +voice	[khɔ(rɔ̄kd)i]	1
				[khɔ(rɔcd)i]	2
				[bə(xɔ̲sd)i]	3
				[nɪ(kɔld)i]	4
				[we(tɔrd)i]	5
	" " " " "	flap+ret.	vow.+back.+voice+short.	" "	[rə(gɔ̲rɔ́d)i]	6
[r̲ã]	" " " " "	cons.+non-ret.	nas.+alv.	[khɔ(rɔkn)ã]	7
				[khɔ(rɔcn)ã]	8
				[bə(xɔ̲sn)ã]	9
				[nɪ(kɔln)ã]	10
				[we(tɔrn)ã]	11
	" " " " "	flap+ret.	vow.+back.+voice+short.	" "	[rə(gɔ̲rɔn)ã]	12

1. Relevant piece has been enclosed in round brackets.
2. Vowels are non-nasal except where nasality[~] is indicated.

ɔ (Contd.)

[ɔs]	cons. , vow.+back.+voice+short. ,	cons.+non-ret.	vow.+back.+voice+short.	fric.	[khɔ(rɔkɔs)]	13
					[khɔ(rɔcɔs)]	14
					[we(tɔrɔs)]	15
	" , " " " " ,	flap+ret.	" "	"	[rə(gɔr̲ɔs)]	16
[ya]	" ,	cons.+non-ret.		vow.+open/half-open+voice+length[1]	[khɔ(rka)]	17
					[khɔ(rca)]	18
					[bə(xs̲a)]	19
					[nɪ(kla)]	20
					[we(t̲ra)]	21
	" ,	flap+ret.		" " " "	[rə(gr̲a)]	22

1. For verbs containing inflexion ɛ see examples 17a to 22a page 175

ɷ (Contd.)

[ɷã]	cons. , cons.+non-ret.		vow.≠open/half-close.+voice+length+nas.[1]	[khɷ(rkã)]	23
				[khɷ(rcã)]	24
				[bə(xs̲ã)]	25
				[nɾ(klã)]	26
				[we(trã)]	27
	" flap+ret.		" " " " "	[rə(gr̲ã)]	28
[we]	" , cons+non-ret.		vow.+half-close.+voice +length[2]	[khɷ(rke)]	29
				[khɷ(rce)]	30
				[bə(xs̲e)]	31
				[nɾ(kle)]	32
				[we(tre)]	33
	" , flap+ret.		" " " "	[rə(gr̲e)]	34

1. For verbs containing inflexion ã see examples 23a to 28a page 175
2. " " " " o " " 29a to 34a page 175

s (Contd.)

[hi]	cons.	,	cons. +non-ret.	-	-	-	-		vow. +close. +front. +voice +length	[khɔ(rki)] 35
										[khɔ(rci)] 36
										[bə(xsi)] 37
										[nτ(kli)] 38
										[we(tri)] 39
	"		flap. +ret.	-	-	-	-			[rə(gri)] 40
[nã]	"		,vow.+back.+ voice+short.	,cons. +non -ret.	-	-	-	-	nas. +alv.	[khɔ(rɔkn)ã]41
										[khɔ(rɔcn)ã]42
										[bə(xɔsn)ã] 43
										[nτ(kɔln)ã] 44
										[we(tɔrn)ã] 45
	"	,	"	"	,flap+ ret.	vow.	+back.	+voice+short.	" "	[rə(gɔrɔn)ã]45

Supplementary examples:

17a.	[khɷ(rkɛ)]	18a.	[khɷ(rcɛ)]
19a.	[bə(xs̲ɛ)]	20a.	[nʈ(klɛ)]
21a.	[we(trɛ)]	22a.	[rə(gr̲ɛ)]
23a.	[khɷ(rkɛ̃)]	24a.	[khɷ(rcɛ̃)]
25a.	[bə(xs̲ɛ̃)]	26a.	[nʈ(klɛ̃)]
27a.	[we(trɛ̃)]	28a.	[rə(gr̲ɛ̃)]
29a.	[khɷ(rko)]	30a.	[khɷ(rco)]
31a.	[bə(xs̲o)]	32a.	[nʈ(klo)]
33a.	[we(tro)]	34a.	[rə(gr̲o)]

7.1131 r/$\bar{r}$ System.

It will be seen from the statement of exponency of ω (7.1131) that in one type of ω syllable there is a vocalic element [ω] at the junction of the root and the inflexion in [di], [r̃ã], and [nã] types of piece (examples 6, 12 and 45 (7.113)). The sequence [-CVCVC-] at the junction of the root and the inflexion in this type of ω syllable may be contrasted with the remaining type of ω syllable in which we find that the sequence at the junction is [-CVCC-] (examples 1-5, 7-11, 17-21, 23-27, 29-33 and 41-44 (7.113)).

The sequence in the former type of ω syllable is associated with retroflexion in final consonant of the root syllable and a consonant in a following inflexion, on one hand the sequence [-CVCC-] in the later type of ω syllable is linked to non-retroflexion in final consonant of the root syllable and a consonant initial in a following inflexion, on the other hand.

In order to deal with the syntagmatic relationship stated above, a two-term (r/$\bar{r}$) System is set up here for the ω. The 2 terms of the System are named r (after retroflexion) and non-r ($\bar{r}$).

7.11311 The phonetic exponents of the r and the $\bar{r}$.

The phonetic exponents of the r (7.113111) and the $\bar{r}$ (7.113112) are as follows:

[ɾi]	cons. , vow. , flap +ret.	vow.	plos. +voice	[rə(gɒr̲ɒd)i]	1
[r̃ã]	" " " "	"	nas. +alv.	[rə(gɒr̲ɒn)ã)]	2
[s]	" " " "	"	fric.	[rə(gɒr̲ɒs)]	3
[a]	" – " "		vow. +open/half-open. +voice+length	[rə(gr̲a)]	4
				[rə(gr̲ɛ)]	4a
[ɾ̃ẽ]	" – " "		vow. +open/half-close. +voice+length+nas.	[rə(gr̲ã)]	5
				[rə(grẽ)]	5a
[we]	" – " "		vow. +half-close. +voice +length	[rə(gr̲e)]	6
				[rə(gr̲o)]	6a
[hi]	" – " "		vow. +close. +front. +voice +length	[rə(gr̲i)]	7
[ã]	" , vow. , " "	vow.	nas. +alv.	[rə(gɒr̲ɒn)ã]	8

7.113112

r̄

[di]	cons. , vow. , cons. +non-ret.		plos. +voice	[khɑ(rɑkd)i]	1
				[khɑ(rɑcd)i]	2
				[bə(xɑsd)i]	3
				[nɤ(kɑld)i]	4
				[we(tɑrd)i]	5
[r̃ã]	" " " "		nas. +alv.	[khɑ(rɑkn)ã]	6
				[khɑ(rɑcn)ã]	7
				[bə(xɑsn)ã]	8
				[nɤ(kɑln)ã]	9
				[we(tɑrn)ã]	10
[ɑs]	" " " "	vow.	fric.	[khɑ(rɑkɑs)]	11
				[khɑ(rɑcɑs)]	12
				[we(tɑrɑs)]	13

ɾ (contd.)

[ya]	cons. , cons. +non-ret.		vow. +open/half-open. +voice+length[1]	[khɑ(rka)]	14
				[khɑ(rca)]	15
				[bə(xsa)]	16
				[nɾ(kla)]	17
				[we(tra)]	18
[w̃ã]	" " "		vow. +open/half-close. +voice+length+nas.[2]	[khɑ(rkã)]	19
				[khɑ(rcã)]	20
				[bə(xsã)]	21
				[nɾ(klã)]	22
				[we(trã)]	23
[we]	" " "		vow. +half-close. +voice +length[3]	[khɑ(rke)]	24
				[khɑ(rce)]	25
				[bə(xse)]	26
				[nɾ(kle)]	27
				[we(tre)]	28

1. For verbs containing inflexion ɛ̃ see examples 14a to 18a page 180
2. " " " " ẽ " " 19a to 23a page 180
3. " " " " o " " 24a to 28a page 180

F (contd.)

[hi]	cons. , cons. +non-ret.		vow. +close. +front. +voice +length	[khɑ(rki)]	29
				[khɑ(rci)]	30
				[bə(xsi)]	31
				[nɾ(kli)]	32
				[we(tri)]	33
[nã]	" , vow. ,cons.+non-ret.	vow.	nas. +alv.	[khɑ(rɑkn)ã]	34
				[khɑ(rɑcn)ã]	35
				[bə(xɑsn)ã]	36
				[nɾ(kɑln)ã]	37
				[we(tɑrn)ã]	38

Supplementary examples:

14a.	[khɑ(rkɛ)]	15a.	[khɑ(rcɛ)]	16a.	[bə(xsɛ)]	17a.	[nɾ(klɛ)]	18a.	[we(trɛ)]
19a.	[khɑ(rkẽ)]	20a.	[khɑ(rcẽ)]	21a.	[bə(xsẽ)]	22a.	[nɾ(klẽ)]	23a.	[we(trẽ)]
24a.	[khɑ(rko)]	25a.	[khɑ(rco)]	26a.	[bə(xso)]	27a.	[nɾ(klo)]	28a.	[we(trɔ)]

It will be seen from the statemant of exponency of r (7.113111) and $\bar{r}$ (7.113112) that both r and $\bar{r}$ types of verb have the sequence [- CVCVC-] at the junction of root and inflexion in [ɷs] piece. As such the 2 types of ɷ syllable are not distinguished from each other through the contrast of sequence [-CVCVC-] and -CVCC- in this particular piece. However they continue to differ from each other through the feature of retroflexion versus non-retroflexion in final consonant of root syllable.

It will further be noted that inflexion syllables in [$\tilde{\underline{r}}$ã] and [nã] types of piece are not distinguishable from each other. The phonetic exponents of both in these types of pieee are identical i.e. nasality+alveolarity. However they continue to be distinguished from each other through retroflexion versus non-retroflexion in relation to the c, p, d, and o types of syllables (7.111, 7.112, 7.115 and7.116).

7.114 f

[ɖi]	flap +non-ret.			plos. +voice	[ma(rd)i] 1
	" +ret.	vow.+cent.+voice+short.		" "	[wa(rəd)i] 2
	" " +nas.	" " " " +nas.		" "	[jã(rəd)i] 3
[rã]	" +non-ret.			nas. + alv.	[ma(rn)ã] 4
	" +ret.	" " " "		" "	[wa(rən)ã] 5
	" " +nas.	" " " " "		" "	[jã(rən)ã] 6
[ø̞s]	" +non-ret.	vow.+back. +voice+short.		fric.	[ma(rø̞s)] 7
	" +ret.	" " " "		"	[wa(rø̞s)] 8
[ya]	" +non-ret.	— — —		vow.+open/half-open.+voice+length[1]	[ma(rà)] 9
	" +ret.	— — —		" " " "	[wa(ra)] 10
	" " +nas.	— — —		" " " " +nas.	[jã(rã)] 11
[wã]	" +non-ret.	— — —		vow.+open/half-close.+voice+length+nas.[2]	[ma(rã)] 12
	" +ret.			" " " " "	[wa(rã)] 13
	" " +nas.			" " " " "	[jã(rã)] 14

1. For verbs containing inflexion ɛ see examples 9a to 11a page 183
2. " " " " ɐ " " 12a to 14a page 183

f (contd.)

[wɛ]	flap +non-ret.	– – –	vow.+half-close.+voice+length[1]	[ma(re)]	15
	" +ret.	– – –	" " " "	[wa(r̲e)]	16
	" " +nas.	– – –	" " " " +nas.	[jã(r̲ẽ)]	17
[hi]	" +non-ret.	– – –	vow. +close. +front. +voice +length	[ma(ri)]	18
	" +ret.	– – –	" " " " "	[wa(r̲i)]	19
	" " +nas.	– – –	" " " " " +nas.	[jã(r̲ĩ)]	20
[ɣ̃ã]	" +non-ret.	– – –	nas. +alv.	[ma(rn)ã]	21
	" +ret.	vow.+cent.+voice+short.	" "	[wa(r̲ən)ã]	22
	" " +nas.	" " " " +nas.	" "	[jã(r̲ə̃n)ã]	23

Supplementary examples:

a.	[ma(rɛ)]	10a.	[wa(r̲ɛ)]	11a.	[jã(r̲ɛ̃)]
2a.	[ma(rẽ)]	13a.	[wa(r̲ẽ)]	14a.	[jã(r̲ẽ)]
15a.	[ma(ro)]	16a.	[wa(r̲o)]	17a.	[jã(r̲õ)]

1. For verbs containing inflexion o, see examples 15a to 17a above

There are two verbs [kər] and [mər] (as they appear in their un-inflected form) which are not distinguished from the verbs belonging to the p and the o, respectively, in the [ya] and [hi] types of piece. The verb root [kər] is, therefore, treated as alternating between the f and the p, having an f form in the [di], [r̃ã], [ɷs], [w̃ã], [we] and [nã] types of piece; e.g. [kərdi kərnã kərɷs kərã kəre kərnã] and a p form in the [ya] and [hi] types of piece; e.g. [kit:a kit:i]. Similarly the verb root [mər] is treated as alternating between the f and the o, having an f form in the [di], [r̃ã], [w̃ã], [we] and [nã] types of piece; e.g. [mərdi mərnã mərã məre mərnã] and an o form in the [ya] and [hi] types of piece; e.g. [moya moi].

An alternative treatment of the material is possible, that is to treat [-it:a -it:i] and [-oya -oi] as exponents of f in the [ya] and the [hi] types of piece, in addition to those exponents already stated above (7.114). This mode of analysis has not been adopted here. The reason is that this treatment would have meant three different statements of exponency of the f in the [ya] and the [hi] types of piece, two of which [it:a it:i] and [oya oi] would have applied to only one lexical item each. It is uneconomical to make two separate statements of exponency for the sake of one lexical item.

It will be seen from the statement of exponency of the f that the inflexion syllable in the [r̲ã] and the [nã] types of piece are not distinguishable from each other. The phonetic exponents of both are nasality + alveolarity. However they continue to be distinguished from each other by retroflexion versus alveolarity in relation to the c,p,d, and o types of root syllables.

7.1141 r/r̄ System.

It will be seen from the phonetic exponents of the f (7.114) that in one type of f syllable there is a vocalic element [ə ə̃] at the junction of root and the inflexion in [di] and [nã] types of piece; e.g.

[wa(rəd)i], [ja(r̃ə̃n)ã]

The sequence [-CVC-] at the junction of root and inflexion in the types of piece stated above is associated with retroflexion in final consonant of root syllable and with consonantal articulation in the following inflexion syllable initial. This type of syllable may be contrasted with the remaining type of f syllable in which sequence [-CC-] at the junction of root and inflexion in the same types of piece is linked to non-retroflexion in final consonant of root syllable and to consonant of inflexion syllable; e.g. [ma(rd)i], [ma(rn)ã].

In order to deal with the syntagmatic relationships stated above a two-term prosodic System named (r/r̄ System) is stated here for the f. The 2 terms of the system are named r(after retroflexion) and r̄ (non-r̄).

7.11411 The phonetic exponents of r and r̄.

The phonetic exponents of r(7.114111) and r̄ (7.114112) are as follows:

.114111 r

[di]	ret.	vow.	plos.+voice	[wa(r̲əd)i]	1
	" + nas.	" + nas.	" "	[jã(r̲əd)i]	2
[ã]	"	"	nas.+alv.	[wa(r̲ən)a]	3
	" + nas.	" + nas.	" "	[jã(r̲ən)a]	4
[s]	"	"	fric.	[wa(r̲ɷs)]	5
[a]	"		vow.+open/half-open.+voice+length	[wa(r̲a)]	6
				[wa(r̲ɛ)]	6a
[r̃]	" + nas.		" " " " +nas.	[jã(r̲a)]	7
				[jã(r̲ɛ̃)]	7a
	"		vow.+open/half-close.+voice+length+nas.	[wa(r̲ã)]	8
				[w̃a(r̲ɛ̃)]	8a
	" + nas.		" " " " "	[jã(r̲a)]	9
				[jã(r̲ɛ̃)]	9a
[we]	"		vöw.+half-close.+voice +length	[wa(r̲e)]	10
				[wa(r̲o)]	10a
	" + nas.		" " " " +nas.	[jã(r̲e)]	11a
				[jã(r̲ɔ̃)]	11a

r (contd.)

[hi]	ret.	- -	vow. + close. + voice + length	[wa(r̲i)]	12
	" + nas.	- -	" " " " + nas.	[jã(r̲ĩ)]	13
[nã]	"	vow.	nas. + alv.	[wa(r̲ən)ã]	14
	" + nas.	" + nas.	" "	[jã(r̲ən)ã]	15

7.1141111 n/$\bar{n}$ System.

It will be seen from the statement of exponency of the r (7.114111) that in one type of the r syllable nasality [~] in a vowel following final consonant of the root syllable is associated with nasality in the consonant (examples 2, 4, 7, 7a, 9, 9a, 11, 11a, 13, 13a, and 14). This may be contrasted with the remaining r type of syllable in which non-nasality in a vowel following final consonant of the root syllable is linked to non-nasality in the consonant (examples 1, 3, 5, 6, 6a, 8, 8a, 10, 10a, and 12).

In order to deal with the syntagmatic relationship between final consonant in the root syllable and a following vowel stated above a two-term (n/$\bar{n}$) prosodic system is set up here for the r. The two terms of the System are named n (after nasality) and non-n ($\bar{n}$).

7.11411111 The phonetic exponents of the n and the $\bar{n}$.

The phonetic exponents of the n (7.114111111) and the $\bar{n}$ (7.114111112) are as follows:

[ĩi]	nas.	vow.+ nas.	plos.+voice	[jã(r̲əd)i]	1
[r̃̃a]	"	" "	nas. +alv.	[jã(r̲ən)a]	2
[ya]	"		vow.+open/half-open.+voice+length+nas.	[jã(r̲ã)]	3
				[jã(r̲ɛ)]	3a
[w̃a]	"		vow.+open/half-close.+" " "	[jã(r̲a)]	4
				[jã(r̲e)]	4a
[we]	"		vow.+ half-close. +" " "	[jã(r̲e)]	5
				[jã(r̲ɔ)]	5a
[ni]	"		vow. +close. +front. +voice +length	[jã(r̲ĩ)]	6
[hã]	"	vow. + nas.	nas. +alv.	[jã(r̲ən)ã]	7

n̄

[di]	non-nas.	vow.	plos. +voice	[wa(r̲əd)i]	1
[r̲ã]	"	"	nas. +alv.	[wa(r̲ən)a]	2
[s]	"	vow.	fric.	[wa(r̲ø s)]	3
[ya]	"		vow.+open/half-open.+voice+length	[wa(r̲a)]	4
				[wa(r̲ɛ)]	4a
[w̃ã]	"		vow.+open/half-close.+voice+length+nas.	[wa(r̲ã)]	5
				[wa(r̲ẽ)]	5a
[we]	"		vow.+half-close.+voice+length	[wa(r̲e)]	6
				[wa(r̲o)]	6a
[hi]	"		vow. +close. +front. +voice +length	[wa(r̲i)]	7
[nã]	"	vow.	nas. +alv.	[wa(r̲ən)a]	8

[di]	non-ret.		plos.+voice	[ma(rd)i]	1
[r̄ã]	"		nas.+alv.	[ma(rn)a]	2
[s]	"		fric.	[ma(rɔs)]	3
[ya]	"		vow.+open/half-open.+voice+length	[ma(ra)]	4
				[ma(rɛ)]	4a
[ɷã]	"		vow.+open/half-close.+voice+length+nas.	[ma(rã)]	5
				[ma(rẽ)]	5a
[we]	"		vow.+half-close. +voice +length	[ma(re)]	6
				[ma(ro)]	6a
[hi]	"		vow. +close. +front. +voice +length	[ma(ri)]	7
[nã]	"		nas. +alv.	[ma(rn)ã]	8

TYPE OF PIECE	PHONETIC EXPONENTS: STEM FINAL	JUNCTION ELEMENT (IF PRESENT)	INFLEXION INITIAL	EXAMPLES[1]	S. NO.
[di]	nas. +non-ret. , occ. +non-ret.		plos. +voice	[rə(ŋgd)i]	1
				[mã(ɲjd)i]	2
	" +ret. , plos. +ret.	vow.+cent.+voice +short.[2]	" "	[mə(ⁿdəd)i]	3
[r̲ã]	nas. +non-ret. , occ. +non-ret.	" " " " +nas.	nas. +ret.	[rə(ŋgə̃r̲)ã]	4
				[mã(ɲjə̃r̲)ã]	5
	" +ret. , plos.+ret.	" " " " "	" "	[mə(n̲d̲ə̃r̲)ã]	6
[ɷs]	nas. +non-ret. , occ. +non-ret.	vow. +back. +voice +short.	fric.	[rə(ŋgɷs)]	7
				[mã(ɲjɷs)]	8
				[mə(n̲d̲ɷs)]	9

1. Relevant piece has been enclosed in round brackets.
2. Vowels are non-nasal except where nasality [~] is indicated.

d (contd.)

[ya]	nas. +non-ret. , occ. +non-ret.		vow.+open/half-open. +voice +length[1]	[rə(ŋga)]	10
				[mã(ɲja)]	11
	" +ret , plos.+ret.		" " " "	[mə(nda)]	12
[w̃ã]	" +non-ret. , occ. +non-ret.		vow.+open/half-close.+voice+length+nas.[2]	[rə(ŋgã)]	13
				[mã(ɲjã)]	14
	" +ret. , plos.+ret.		" " " " "	[mə(ndã)]	15
[we]	" +non-ret. , occ. +non-ret.		vow. +half-close. +voice +length[3]	[rə(ŋge)]	16
				[mã(ɲje)]	17
				[mə(nde)]	18

1. For verbs containing inflexion ɛ see examples 10a to 12a page 195.
2. " " " " ɛ̃ " " 13a to 15a page 195.
3. " " " " o " " 16a to 19a page 195.

d (contd.)

[hi]	nas. +non-ret.,occ. +non-ret.		vow. +close. +front. +voice +length	[rə̃(ŋgi)]	19
				[mã(ɲji)]	20
	" ret. ,plos.+ret.		" " " " "	[mə̃(ndi)]	21
[nã]	" non-ret., occ. +non-ret.		nas. +alv.	[rə̃(ŋgn)ã]	22
				[mã(ɲjn)ã]	23
	" ret. , plos. +ret.	vow. +cent. +voice + length		[mə̃(ndən)ã]	24

Supplementary examples:

10a.	[rə̃(gɛ)]	11a.	[mã(jɛ)]	12a.	[mə̃(ndɛ)]
13a.	[rə̃(gẽ)]	14a.	[mã(jẽ)]	15a.	[mə̃(ndẽ)]
16a.	[rə̃(go)]	17a.	[mã(jo)]	18a.	[mə̃(ndo)]

7.1151 r/$\bar{r}$ System

It will be seen from the phonetic exponents of the d (7.115) that in one type of d syllable the element [ə] h[illegible] of the junction of root and inflexion in [di] and [nã] types of piece is associated with retroflexion in final consonant of the root syllable and with a consonant in the inflexion syllable initial; e.g.

[mə̃(n̲d̲əd)i], [mə̃(n̲d̲ən)ã]

The presence of the junction element [ə] [illegible] or in other words the sequence [-CCVC-] at the junction of the root and the inflexion in the above 2 types of piece in the type of syllable stated above may be contrasted with the remaining type of d syllable which is characterised by the sequence [-CCC-] at the junction of the root and the inflexion in the same 2 types of piece. In the later type of d syllable the sequence [-CCC-] at the junction is linked to non-retroflexion in final consonants of the root syllable and to the initial consonant in the inflexion syllable; e.g.

[rə̃(ŋgd)i], [rə̃(ŋgn)ã]

In order to account for the syntagmatic relationships between root syllable final and inflexion syllable initial a two-term(r/$\bar{r}$) System has been stated here for the d. The 2 terms of the System are named r (after retroflexion in final consonants of root syllable) and non-r ($\bar{r}$).

7.11511 The phonetic exponents of the r and $\bar{r}$.

The phonetic exponents of the r (7.115111) and the $\bar{r}$ (7.115112) are as follows:

r

[di]	ret. ,	ret.	vow.	plos.+voice	[mə̃(n̥dəd)i]	1.
[r̥ã]	"	"	"	nas. +ret.	[mə̃(n̥dəṛ)ã]	2
[ɔs]	"	"	vow.	fric.	[mə̃(ndɔs)]	3
[ya]	"	"		vow.+open/+voice+length	[mə̃(n̥da)]	4
				half-open	[mə̃(n̥dɛ)]	4a
[ɰ̃ã]	"	"		vow.+open/ +voice+length+nas.	[mə̃(ndã)]	5
				half-close.	[mə̃(ndɛ̃)]	5a
[we]	"	"		vow.+half-close.+voice+length	[mə̃(nde)]	6
					[mə̃(ndo)]	6a
[hi]	"	"		vow.+close.+front.+voice +length	[mə̃(ndi)]	7
[nã]	"	"	vow.	nas. +alv.	[mə̃(ndən)ã]	8

[di]	non-ret.	non-ret.	plos. +voice	[rə(ɲgd)i]	1
				[mã(ɲjd)i]	2
[r̄ã]	"	"	vow. +nas.	nas. +ret.	[rə(ɲgər̄)ã]	3
				[mã(ɲjər̄)ã]	4
[ɷs]	"	"	vow.	fric.	[rə(ɲgɷs)]	5
				[mã(ɲjɷs)]	6
[ya]	"	"		vow.+open/half-open.+voice+length[1]	[rə(ɲga)]	7
					[mã(ɲja)]	8
[ɯã]	"	"		vow.+open/half-close.+voice+length+nas.[2]	[rə(ɲgã)]	9
					[mã(ɲjã)]	10
[we]	"	"		vow.+half-close. +voice +length[3]	[rə(ɲge)]	11
					[mã(ɲje)]	12

1. For verbs containing inflexion ɛ see examples 7a and 8a page 199.
2. " " " " ɛ̃ " " 9a and 10a page 199.
3. " " " " o " " 11a and 12a page 199.

$\bar{r}$ (contd.)

[hi]	non-ret. , non-ret.	.. ..	vow. +close. + voice + length	[rə̃(ŋgĩ)] 13
				[mã(ɲjĩ)] 14
[nã]	" "	. .	nas. +alv.	[rə̃(ŋgn)ã] 15
				[mã(ɲjn)ã] 16

Supplementary examples:

7a. [rə̃(ŋgɛ)] 8a. [mã(ɲjɛ)]

9a. [rə̃(ŋgẽ)] 10a. [mã(ɲjẽ)]

11a. [rə̃(ŋgo)] 12a. [mã(ɲjo)]

It will be seen from the phonetic exponents of r and $\bar{r}$ that both r and $\bar{r}$ types of verbs have sequence of -CCVC- at the junction of root and inflexion in [r̃ã] piece. As such they are no more distinguished from each other in this particular piece through the contrast of sequence [-CCVC-] and [-CCC-]. However they continue to differ from each other through the feature of retroflexion versus non-retroflexion in final consonants of root syllable.

TYPE OF PIECE	PHONETIC EXPONENTS			EXAMPLES[1]	S. NO.
	STEM FINAL	JUNCTION ELEMENT (IF PRESENT)	INFLEXION FINAL		
[di]	vow. +length +nas.	nas. +alv.	plos. +voice	[j(ɪ̃nd)i]	1
				[s(ɑ̃nd)i]	2
				[s(æ̃nd)i]	3
				[r(ɔ̃nd)i]	4
				[s(ɛ̃nd)i]	5
				[(ã̃nd)i]	6
[r̃a]	vow. +length +nas.	– –	nas. +ret.	[j(ɪ̃r̃)ã]	7
				[s(ɑ̃r̃)ã]	8
				[s(æ̃r̃)ã]	9
				[r(ɔ̃r̃)ã]	10
				[s(ɛ̃r̃)ã]	11
				[(ã̃r̃)ã]	12

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1. Relevant piece has been enclosed in round brackets.

o (contd.)

[ɷs]	vow. +length[1]		fric.	[s(es)]	13
				[r(os)]	14
				[k(has)]	15
[ya]	" "	palat. +glide	vow.+open/half-open+voice+length[2]	[j(iya)]	16
				[s(eya)]	17
				[r(oya)]	18
				[s(ɛya)]	19
				[(aya)]	20
[ʊ̃a]	" "	+nas.fricless. cont.	vow.+open/half-close.+voice+length+nas.[3]	[j(ɪʊ̃a)]	21
				[s(ɑʊ̃a)]	22
				[s(ɛʊ̃a)]	123
				[r(ɔʊ̃a)]	24
				[s(ɛʊ̃a)]	25
				[(ãʊ̃a)]	26

1. Vowels are non-nasal except where nasality[~] is indicated.
2. For verbs containing inflexion ɛ see examples16a to20a page 204
3. " " " " ɛ̃ " " 21a to 26a page 204

o (contd.)

[we]	vow. +length	fricless. cont.	vow. +half-close. +voice +length[1]	[j(iwe)]	27
				[s(uwe)]	28
				[s(ewe)]	29
				[ʂ(øwe)]	30
				[s(ɛwe)]	31
				[(awe)]	32
[hi]	" "	- -	vow. +close. +front. +voice+length	[s(ui)]	33
				[s(ei)]	34
				[r(oi)]	35
				[s(ɛi)]	36
				[(ai)]	37

1. For verbs containing inflexion o see examples 27a to 32a page 204

o (contd.)

[nã]	vow. +length		nas. +alv.	[j(in)ã]	38
				[s(un)ã]	39
				[s(en)ã]	40
				[r(on)ã]	41
				[s(ɛn)ã]	42
				[(an)ã]	43

Supplementary examples:

16a.	[j(iyɛ)]	17a.	[s(eyɛ)]	18a.	[r(oyɛ)]	19a.	[s(ɛyɛ)]	20a.	[(ayɛ)]
21a.	[j(ĩw̃ẽ)]	22a.	[s(ẽw̃ẽ)]	23a.	[r(õw̃ẽ)]	24a.	[s(ɛ̃w̃ẽ)]	25a.	[(ãw̃ẽ)]
26a.	[j(iwo)]	27a.	[s(ewo)]	28a.	[r(owo)]	29a.	[s(ɛwo)]	30a.	[(awo)]

It may be pointed out here that there are 6 verbs [de si pi so kha tɛ́] as they appear in their un-inflected form, which are not distinguished from some of the verbs belonging to the p in [ya] and [ɦi] types of piece (7.112). These lexical items are treated here as alternating between the p and the o, having a p form in the [ya] and [ɦi] types of piece; e.g.

	[ya]	[i]
1.	[dɪ̯t:a]	[dɪ̯t:i]
2.	[sit:a]	[sit:i]
3.	[pit:a]	[pit:i]
4.	[sɔt:a]	[sɔt:i]
5.	[kha̤d:a]	[kha̤d:i]
6.	[tə̱t:há]	[tə̱t:hí]

and an o form in the [di], [r̃ã], [ɔs], [w̃ã], [we] and [nã] types of piece; e.g.

	[di]	[r̃ã]	[ɔs]	[w̃ã]	[we]	[nã]
1.	[dẽ̱ndi]	[dẽ̱r̃ã]	[des]	[dẽ̱w̃ã]	[dewe]	[dẽ̱n:ã]
2.	[sɪ̃ndi]	[sɪ̃r̃ã]	[sis]	[sɪ̃w̃ã]	[siwe]	[sɪ̃n:ã]
3.	[pĩndi]	[pĩr̃ã]	[pis]	[pĩw̃ã]	[piwe]	[pĩn:ã]
4.	[sõndi]	[sõr̃ã]	-	[sõw̃ã]	[sowe]	[sõn:ã]
5.	[khãndi]	[khãr̃ã]	[khas]	[khãw̃ã]	[khawe]	[khãn:ã]
6.	[tɛ̱ndí]	[tɛ̱r̃ã́]	-	[tɛ̱w̃ã́]	[tɛwé]	[tɛ̱n:ã́]

An alternative treatment of the material is possible, that is to treat [-ɾta it:a -ɔt:a -ad:a -ə̱t:ha] and [-ɾt:i it:i -ɔt:i -ad:i -ə̱t:hi] as phonetic exponents of the o, in addition to those already stated above (7.116), in the [ya] and [ɦi] types of piece. This would have

meant 6 different statements of exponency for the
o in/[ya] and [hi] types of piece, 5 of which
would have applied to 6 lexical items, 1 to lexical
items at serial numbers 2 and 3 above and 4 to one
lexical item each. This mode of analysis has not
been adopted here as it would be uneconomical to
to make 5 different statements of exponency for
the sake of 6 lexical items.

7.12 In accordance with their similarity in respect of the syntagmatic associations of features in the final of the verb-root syllable in conjunction with a following inflexion, as stated above, the fifty-three types of verb-root have been put into the following twenty prosodic groups:

TYPE OF VERB-ROOT[1]	NAME OF THE PROSODIC GROUP	NO. OF THE PROSODIC GROUP
1	dr	I
2 and 3	dr̄	II
4	frn	III
5 to 9	cs̄	IV
10 to 12	cs	V
13	frn̄	VI
14	fr̄	VII
15 to 18	phs̄r̄	VIII
19	phs̄r	IX
20 to 23	pvs̄r̄	X
24	pvs̄r	XI
25 to 28	ph̄v̄s̄r̄	XII
29	ph̄v̄s̄r	XIII
30 to 32	ph̄v̄sr̄	XIV
33	ph̄v̄sr	XV
34 to 36	pvsr̄	XVI
37	pvsr	XVII
38	ɷr	XVIII
39 to 47	ɷr̄	XIX
48 to 53	o	XX

1. For examples see pages 210-14

It will be seen that in one case i.e. prosodic group o the Intra-verbal Junction System coincides with the prosodic distinctions already arrived at through the Intra-root Junction System, but in other cases it cuts across it. The prosodic groups i and ii are split into four groups each i.e. I to IV and IV to VII, respectively (group IV is shared by both i and ii), whereas groups iii, iv, v, vi, vii and viii are split into two groups each i.e. VIII and IX, X and XI, XII and XII, XIV and XV, XVI and XVII and XVIII and XIX respectively. The following table will illustrate the relations between the two systems:

INTRA-ROOT JUNCTION	TYPE OF VERB ROOT	INTRA-VERBAL JUNCTION	
i cn	1[1]	dr	I
	2 3	dr̄	II
	4	frn	III
	5 and 6	cs̄	IV
ii cn̄	7 to 9		
	10 to 12	cs	V
	13	frn	VI
	14	fr̄	VII
iiiphs̄	15 to 18	phsr	VIII
	19	phsr	IX
iv pvs̄	20 to 23	pvs̄r	X
	24	pvs̄r	XI
v phv̄s̄	25 to 28	phv̄s̄r	XII
	26	phv̄s̄r	XIII
vi phv̄s	30 to 32	phv̄sr̄	XIV
	33	phv̄sr	XV
viipvs	34 to 36	pvsr̄	XVI
	37	pvsr	XVII
viii o	38	or	XVIII
	39 to 47	or̄	XIX
ix o	48 to 53	o	XX

1. For examples see pages 228-161

7.20 Phonematic Systems for the Verb-root Syllable

This section completes the account of the phonematic systems set up for the verb-root syllable. Certain Phonematic Systems have already been stated; these are the C-Systems stated above (5.12) following immediately on the prosodic systems that apply to the syllable initial only (5.10).

It remains to state - C Systems; and this is the logical place for them to be stated following on those prosodic systems which apply to the syllable final piece (of the verb-root syllable).

Last come the V Phonematic Systems; (7.22): this is the most appropriate order of statement for them because they are affected by the syllable-initial piece prosodic systems (5.10) as well as by the syllable-final piece prosodic systems (7.10).

7.21 Phonematic Systems (syllable final)

The following ten -C Systems have been set up for the twenty prosodic types of syllable final; in setting them up I have made use of a native speaker's intuition in that I have assumed certain gapes in the occurence of consonants in my examples to be accidental rather then structurally significant.

1. A One-term System for cndr (7.211)
2. A Two-term System for cndr̄ (7.212)
3. A Two-term System for cncs̄ (7.213)

4. A Four-term System for $\begin{pmatrix} c\bar{n}c\bar{s} \\ c\bar{n}cs \end{pmatrix}$ (7.214)

5. A One-term System for $\begin{pmatrix} c\bar{n}f\underline{r}\bar{n} \\ cnf\underline{r} \\ cnfrn \end{pmatrix}$ (7.215)

6. A Four-term System for $\begin{pmatrix} ph\bar{s}\underline{r} \\ pvs\underline{r} \\ pv\bar{s}\underline{r} \\ ph\bar{v}s\underline{r} \\ phvs\underline{r} \end{pmatrix}$ (7.216)

7. A One-term System for $\begin{pmatrix} ph\bar{s}r \\ pvsr \\ ph\bar{v}sr \\ phvsr \end{pmatrix}$ (7.217)

8. A Nineteen-term System for the penultimate consonant in the final syllable of ωr and ω̄r. (7.218)

9. A One-term system for the ultimate consonant in the final syllable of ωr. (7.219)

10. An Eleven-term System for the ultimate consonant in the final syllable of ω̄r. (7.2110)

7.211 Phonematic-C System for cndr

A one-term Phonematic-C System has been set up for the cndr type of verb-root. The phonetic exponents of the term are as follows:

Phonematic Unit	Phonetic Exponents	Examples
D	Voice + apic.	[mə̃n̪d]

7.212 Phonematic -C System for cndr̄.

A two-term Phonematic -C System has been set up for the cndr̄ type of verb-root. The two terms of the system and their phonetic exponents are as follows:

G	vel. + dors. + voice,	
	plos. + vel. + dors. + voice	[rə̃ŋg]
J	palato-alv. + dors. + voice,	
	affri. + palato-alv. + dors. + voice	[mãɲj]

7.213 Phonematic - C System for cncs̄.

A two-term Phonematic -C System has been set up for the cncs̄ type of verb-root. The tow term of the system and their phonetic exponents are as follows:

M	lab. + voice	[cə̃m]
N	alv. lam. + voice	[mə̃n]

7.214 Phonematic -C System for cn̄cs̄ and cn̄cs.

A four-term Phonematic -C System has been set up for the cn̄cs̄ and cn̄cs types of verb-root. The four terms of the system and their phonetic exponents are as follows:

					c̄n̄cs̄	c̄n̄cs
S	fric.	+ alv.	+ lam.	+ vless.	[nəs]	-
ʃ	"	+ ret.	+ apic.	+ "	-	[jos]
X	"	+ vel.	+ dors.	+ "	[pəx′	cix]
L	lat.	+alv.	+ voice		[məl	mel]

7.215 Phonematic -C System for c̄n̄frn̄, c̄n̄fr̄ and cnfrn.

A one-term Phonematic -C System has been set up for the c̄n̄frn̄, c̄n̄fr̄ and cnfrn types of verb-root. The term and its phonetic exponents are as follows:

		c̄n̄frn̄	c̄n̄fr̄	cnfrn
R	voice	[war	war	jar̃]

7.216 Phonematic -C System for phs̄r̄, pvs̄r̄, pvsr̄, ~~xxxxx~~ ph̄v̄s̄r̄ and ph̄v̄sr̄.

A four-term Phonematic -C System has been set up for the phs̄r̄, pvs̄r̄, pvsr̄, ph̄v̄s̄r̄ and ph̄v̄sr̄ types of verb-root. The four terms of the system and their phonetic exponents are as follows:

		phs̄r̄	pvs̄r̄	pvs̄r̄	ph̄v̄s̄r̄	ph̄v̄s̄r̄
P	plos.+lab.	[lɪpːhə	ləbːə	dob	kəpːə	chap]
T	plos.+alv.+lam.	[cɪtːhə	kɷdːə	——	kəɾ̪ːə	jot]
K	plos.+vel.+dors.	[lɪkːhə	ləgːə	jag	cɷkːə	rok]
C	affri.+palato-alv. +dors.	[kəcːhə	kəjːə	pejʼ	nəcːə	soc]

7.217 Phonematic-C Systemfor phs̄r, pvs̄r, ph̄v̄s̄r and ph̄v̄sr.

A one-term Phonematic-C System has been set up for the phs̄r, pvs̄r, ph̄v̄s̄r and ph̄v̄sr. The phonetic exponents of the term are as follows:

		phs̄r	pvs̄r	ph̄v̄s̄r	ph̄v̄sr
T	apic.	[ɷtːhə	kədːə	kɷtːə	mut]

7.218 Phonematic-C System for the penultimate Consonant in the final syllable of ɷr and ɷr̃.

A nineteen-term Phonematic-C System has been set up for the penultimate consonant in the final syllable of the ɷr and ɷr̃ types of verb-root. The nineteen terms of the system and their phonetic exponents are as follows:

		ɷr	ɷr̃
P	plos.+lab.+vless	[ləpɷr	——
B	plos.+lab.+voice	——	——
T	plos.+alv.+lam.+vless	[——	khotɷr]
D	plos.+alv.+lam.+voice	[——	bədɷl]
ɭ	plos.+ret.+apic.+vless	[——	lətɷk]
ɖ	plos.+ret.+apic.+voice	[——	——]
K	plos.+vel.+dors.+vless	[pəkɷr̃	——]
G	plos.+vel.+dors.+voice	[cəgɷr	——]
C	affri.+palato-alv.+dors.+vless	[nɷcɷr	——]

(Cont).		ɷr	ɷr̃
J.	affri.+palato-alv.+dors.+voice	[ɷjɷr	cʈjɷk]
S	fric.+alv.+lam.+vless	[—	khʈsɷk]
Z	fric.+alv.+lam.+voice	[—	gɷzɷr]
ʂ	fric.+ret.+apic.+vless	[—	hɷsɷk]
X	fric.+vel.+dors.+vless	[—	bəxɷs]
ɣ	fric.+vel.+dors.+voice	[—	nʈɣɷl]
M	nas.+lab.+voice	[cəmɷr	cəmɷx]
N	nas.+alv.+lam.+voice	[—	——]
R	flap.+alv.+lam.+voice	[—	lərɷz]
ɾ	flap.+ret.+apic.+voice	[—	tərɷf]

7.219 Phonematic-C System for the ultimate consonant in the final syllable of ɷr.

A one-term Phonematic-C System has been set up for the ultimate consonant in the final syllable of the ɷr type of verb-root. The phonetic exponents of the term are as follows:

R flap.+apical.+voice ..... [ləpɷr]

7.2110 Phonematic-C System for the ultimate consonant in the final syllable of ɷr̃.

An eleven-ter Phonematic-C System has been set up for the ultimate consonant in the final syllable of the ɷr̃ type of verb-root. The eleven terms of the system and their phonetic exponents are as follows:

T	plos.+alv.+lam.+vless	[wərɑt]
K	plos.+vel.+dors.+vless	[khɑrɑk]
C	affr.+palato-alv.+dors.+vless ...	[xərɑc]
J	affr.+palato-alv.+dors.+voice ...	[səmɑj]
F.	fric.+lab.+voice	[tərɑf]
S	fric.+alv.+lam.+vless	[tərɑs]
Z	fric.+alv.+lam.+voice	[lərɑz]
V)	fric.+ret.+apic.+vless	[bəxɑʂ]
X	fric.+vel.+dors.+vless	[cəmɑx]
L	lat.+alv.+voice	[nτ ɑl]
R	flapɔ+alv.+lam.+voice	[khotɑr]

7.22 Phonematic Systems (syllable): V Systems.

The following Phonematic systems - V Systems account for those paradagmatic distinctions which remain after the prosodic systems of the syllable-initial piece and of the syllable-final piece have been dealt with all syntagmatically associated features of those two types of piece. Separate V Systems have, therefore, to be stated in order to reflect prosodic distinctions already made for the syllable-initial piece (p, $\bar{p}$; h, $\bar{h}$; v, $\bar{v}$) and the syllable-final piece (cndr, cnd$\bar{r}$, cnc$\bar{s}$, etc), (as before the absence of certain vowels in some types of example is taken to be accidental rather than the systematic (7.21)).

At this point the various V Systems are stated in turn according to the prosodic type or types of syllable-initial and syllable-final piece to which they are appropriate

but a summary of the V Systems and the prosodic types of lexical item to which they apply is given at the end of this section (7.228).

7.221 A nine-term Phonematic V System has been set up for the types of verb-root syllable classified as $p\bar{h}\bar{v}$ or $\bar{p}$ (syllable initial) and cndr, cnd$\bar{r}$, cnfrn, c$\bar{n}$frn$\bar{}$, cnf$\bar{r}$, ωr, or $\omega\bar{r}$ (syllable final). The nine terms of the system and their phonetic exponents are as follows:

Phonematic Unit	Phonetic exponents
I	close.+front.+unround.+length
U	close.+back.+round.+length
E	half-close.+front.+unround.+length
O.	half-close.+back.+round.+length
ɛ	half-open.+front.+unround.+length
A	open.+neutral+unround.+length
ɤ	half-close.+front.+centraliz.+short.
ə	half-open.+central.+short.
ɔ	half-close.+back.+centraliz.+short.

7.222 An eight-term Phonematic V System has been set up for the types of verb-root syllable classified as pv (syllable initial) and cndr, cnd$\bar{r}$, cnfrn, c$\bar{n}$frn$\bar{}$, cnf$\bar{r}$, ωr or $\omega\bar{r}$, (syllable final). The eight terms of the system and their phonetic exponents are as follows:

Phonematic Unit	Phonetic exponents
U	close.+back.+round.+length
E	half-close.+front.+unround.+length
O	half-close.+back.+round.+length
ɛ	half-open.+front.+unround.+length
A.	open.+neutral.+unround.+length
ɪ	half-close.+front.+centralize.+short
ə	half-open.+central.+short
ʊ	half-close.+back.+centraliz.+short

7.223 A seven-term Phonematic V System has been set up for the types of verb-root syllable classified as ph (syllable initial) and cndr, cnd$\bar{r}$, cnfrn, c$\bar{n}$fr$\bar{n}$, cnf$\bar{r}$, ɷr or ɷ$\bar{r}$ (syllable final). The seven terms of the system and their phonetic exponents are as follows:

Phonetic Unit	Phonetic exponents
E	half-close.+front.+unround.+length
O	half-close.+back.+round.+length
ɛ	half-open.+front.+unround.+length
A	open.+neutral.+unround.+length
ɪ	half-close.+front.+centraliz.+short
ə	half-open.+central.+short
ʊ	half-close.+back.+centraliz.+short

7.224 A six-term Phonematic V System has been set up for the types of verb-root syllable classified as $p\bar{h}\bar{v}$ or $\bar{p}$ (syllable initial) and $p\bar{h}\bar{v}sr$, $p\bar{h}\bar{v}s\bar{r}$, $pvsr$, $pvs\bar{r}$, $c\bar{n}cs$ or o (syllable final). The six terms of the system and their phonetic exponents are as follows:

Phonetic Unit	Phonetic exponents
I	close.+front.+unround
U	close.+back.+round
E	half-close.+front.+unround
O	half-close.+back.+round
$\mathcal{E}$	half-open.+front.+unround
A	open.+neutral.+unround

7.225 A five-term Phonematic V System has been set up for the type of verb-root syllable classified as pv (syllable initial) and $p\bar{h}\bar{v}sr$, $p\bar{h}\bar{v}s\bar{r}$, $pvsr$, $pvs\bar{r}$, $c\bar{n}cs$ or o (syllable final). The five terms of the system and their phonetic exponents are as follows:

Phonetic Unit	Phonetic exponents
U	close.+back.+round
E	half-close.+front.+unround
O	half-close.+back.+round
$\mathcal{E}$	half-open.+front.+unround
A	open.+neutral.+unround

7.226 A four-term Phonematic V System has been set up for the types of verb-root syllable classified as ph (syllable initial) and phv̄v̄sr, phv̄v̄sr̄, pvsr, pvsr̄, cn̄cs or o (syllable final). The four terms of the system and their phonetic exponents are as follows:

Phonetic Unit	Phonetic exponent
E	half-close.+front.+unround.
O	half-close.+back.+round.
ɛ	half-open.+front.+unround.
A	open.+neutral.+unround.

7.227 Finally a three-term Phonematic V System has been set up for the types of verb-root syllable classified as phv̄v̄, pv, ph or p̄ (syllable initial) and cncs̄, cn̄cs̄, phs̄r̄, pvs̄r̄, phv̄v̄s̄r̄, phv̄v̄sr, phs̄r or pvs̄r (syllable final). The three terms of the system and their phonetic exponents are as follows:

Phonetic Unit	Phonetic exponent
ɪ	half-close.+front.+centraliz.
ə	half-open.+central.
ʊ	half-close.+back.+centraliz.

SUMMARY

Syllable-initial types of piece	Vowel Range									Syllable-final types of piece
	I	ʊ	E	O	ɛ	A	ɔ	ə	ɒ	
p̄, phv̄	✓	✓	✓	✓	✓	✓	✓	✓	✓	(cndr, cndr̄, cnfrn
pv	x	✓	✓	✓	✓	✓	✓	✓	✓	cn̄frn̄, cnfr̄,
ph	x	x	✓	✓	✓	✓	✓	✓	✓	ɷr, ā.
p̄, phv̄	✓	✓	✓	✓	✓	✓	x	x	x	(phv̄sr, phv̄sr̄,
pv	x	✓	✓	✓	✓	✓	x	x	x	pvsr, pvsr̄,
ph	x	x	✓	✓	✓	✓	x	x	x	cn̄cs, o
p̄, phv̄ pv, ph	x	x	x	x	x	x	✓	✓	✓	(cncs̄, cn̄cs̄, phsr̄, pvs̄r̄, phv̄sr, phv̄sr, phs̄r, pvs̄r.

X = structural non-occurence

✓ = occurence or accidental non-occurence

CHAPTER VIII

THE INFLEXION:

8.00 Introductory.

This chapter gives an account of the prosodic and the phonematic systems as applicable to the verbal inflexion. Section 8.10 deals with the prosodic system and section 8.20 with the phonematic systems.

8.10 Intra-inflexion Prosodic System.

An initial consonant in a verbal inflexion exhibits syntagmatic relationship with a following vowel. In one type of inflexion syllable nasality in an initial consonant is linked to nasality [˜] in a following vowel; e.g. [r̃ã nã]. It will be seen from the preceding examples that the nasality in initial consonants [r̃] and [n] is associated with nasality in the following vowel [a]. In the remaining type of the inflexion syllable non-nasality in the initial consonant is linked to non-nasality in a following vowel; e.g. [di da]. It will be seen from the above examples that the non-nasal consonant [d] is followed by a non-nasal vowel [i a].

In order to account for the syntagmatic relationships between the two segments of an inflexion syllable a two-term prosodic system is stated for the inflexion syllable. As it is concerned with the relationships within the inflexion syllable the system is named Intra-inflexion Prosodic System (or briefly

Intra-inflexion System). The two terms of the System are named n (from nasality) and non-n ($\bar{n}$).

8.11 Phonetic exponents of the terms of the Intra-inflexion System.

The phonetic exponents of the n (8.111) nad the $\bar{n}$ (8.112) are as follows:

8.111 Phonetic exponents of the n.

Phonetic exponents		Examples			
consonant	vowel				
nas.	nas.	[kər(nĩ)	kər(nẽ)	kər(nɛ̃)	kər(nã)
		sõ(r̃ã)	sõ(r̃ẽ)	(sõ(r̃ɛ̃)	sõ(r̃ã)]^{1}

8.112 Phonetic exponents of the $\bar{n}$

Phonetic Exponents		Examples:			
consonant	vowel				
non-nas.	non-nas.	[kər(di)	kər(de)	kər(dɛ)	kər(da)]^{1}

8.20 Phonematic Systems.

Since the Inflexion syllable features are not subjected to any further prosodic analysis the paradigmatic differeneces between them are stated as phonetic exponents of phonematic units. Accordingly two phonematic systems are stated ; one for the consonant indicated as C System (8.21) and the other for the vowel indicated as V System (8.22).

8.21 The Phonematic C- System

A two-term Phonematic C- System is stated for the n inflexion syllable (8.211) and a one-term Phonematic C- System for the $\bar{n}$ inflexion syllable (8.212).

8.211 The Phonematic C- System for the n.

The two terms of the Phonematic C- System and their phonetic exponents are as follows:

Phonematic Unit	Phonetic exponents	Examples
R	Voice	[ã(r̃)ã][1]
N	"	[ã(n)ã]

8.2112 The Phonematic C- System for the $\bar{n}$

The Phonematic C- System for the $\bar{n}$ inflexion syllable comprises one term. The term and its phonetic exponents are as follows:

Phonematic Unit	Phonetic exponents	Example
D	alv. + lam.	[kər(d)a][1]

8.22 The Phonematic V System

Three Phonematic V Systems are stated for the Inflexion Syllable; one for the initial vowel in the initial syllable of an inflexion indicated as Phonematic V- System (8.221), one for the non-initial vowel in the initial syllable of an Inflexion Syllable indicated as Phonematic -V- System (8.222) and the third one for the vowel in the second syllable of an inflexion indicated as -V System (8.223).

1. The relevant example has been enclosed in round brackets.

8.221 The Phonematic V- System

The Phonematic V- System contains five terms. The five terms and their phonetic exponents are as follows:

Phonematic Unit	Phonetic exponents	Examples
II	front.	[sar(i)][1]
EE	"	[sar(e) sar(ẽ)]
ℰℰ	"	[sar(ɛ)]
AA	neut.	[sar(a)] sar(ã)]
OO	back.	[sar(o)]

8.222 The Phonematic -V- System.

The Phonematic -V- System comprises four terms. The four terms of the System and their phonetic exponents are as follows:

Phonematic Unit	Phonetic exponents	Examples
II	close.+front.+voice+length	[kərd(i)][1]
EE	half-close.+front.+voice+length	[kərd(e)]
ℰℰ	half-open. " " "	[kərd(ɛ)]
AA	open. +neut. " "	[kərd(a)]

8.223 The Phonematic -V System.

The Phonematic -V System contains two terms. The two terms and their phonetic exponents are as follows:

Phonematic Unit	Phonetic exponents	Examples
AA	open. +neut. + voice + nas. + length	[kərdi(ã)][1]
OO	half-close. + back. + voice + length	[kərde(o)]

1. The relevant example has been enclosed in round brackets.

APPENDIX I

ABSTRACT

This thesis deals with the phonology of the Verbal Phrase in Hindko as spoken in Peshawar City. A detailed description of the junction features both within the verb-root and the root and inflexion has been given. The verb-root when combined with an inflexion exhibits a high degree of variation in its phonetic shape. "Since prosodic analysis.....is particularly suited to dealing with the phonological problem presented by such a high degree of variation in the phonetic form of lexical items....."[1] it is prosodic analysis that is here applied to the Hindko material.

Accordingly the verb-roots have been put into four prosodic groups in accordance with the junction features in the syllable initial of the verb, in nine prosodic groups in accordance with the junction features in the syllable - final of the verb-root and twenty prosodic groups in accordance with the junction features between a verb-root and a following inflexion. The inflexions are put into two prosodic groups according to the junction features in the inflexion syllable and eight prosodic groups in accordance with the junction features between an inflexion and a preceding verb-root.

Tone in Hindko applies to the phrase. Accordingly the Verbal Phrase has been put into two groups; tone 1 (T1) Phrase and tone 2(T2) Phrase.

My interest in intonation is limited to the part it plays in relation to the Verbal Phrase. Two types of Clausal pattern have been used; sentence final and sentence non-final.

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1. (Dr.) R.K. Sprigg; Verbal Phrase in Lhasa - Tibetan p-2

APPENDIX I

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Accordingly the verb-roots have been put into four prosodic groups in accordance with the junction features in the syllable initial of the verb, in nine prosodic groups in accordance with the junction features in the syllable final of the verb-root and in twenty prosodic groups in accordance with the junction features between a verb-root and a following inflexion. The inflexions are put into two prosodic groups according to the junction features in the inflexion syllable and in eight prosodic groups in accordance with the junction features between an inflexion and a preceding verb-root.

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Chapter I gives values of various symbols used in this thesis.

Chapter II describes the verbal phrase and its constituents, delimits the verbal phrase and gives an account of

various types of verbal phrase, such as one-word phrase, two-word phrase and three-word phrase. It further states the criteria for establishing the word and describes various types of verbal word, such as Main Verb, Operator Verb and Auxiliary Verb.

Chapter III states the tone in Hindko, describes the tonal system and classifies the verbal phrase in accordance with the tonal system.

Chapter IV gives an account of various Intonational Systems in relation to the Verbal Phrase.

Chapter V gives an account of the syllable initial of the Verbal Word and states the Initial Junction System, various sub-systems and the Phonematic Systems at the Word-initial place.

Chapter VI gives an account of the syllable final of the verb-root. It states the Final Junction System, and various sub-systems.and Phonematic

Chapter VII gives an account of syntagmatic relationships between the verb-root and a following inflexion,states the Intra-verbal Junction System,various sub systems, describes relationships between the Final Junction System and the Intra-verbal Junction System, and finally states the Phonematic Systems at the root-final place.

Chapter VIII states the prosodic system relating to intra-inflexion junction and the Phonematic Systems relating to initial, medial and final place in the inflexion.

Appendix II contains a list of Main Verbs, classified in accordance with the Initial System, Appendix III a list of Main Verbs classified in accordance with the Final System and the Intra-verbal System, Appendix IV a list of Operator Verbs, Appendix V a list of Auxiliary Verbs and Appendix VI contains the tonograms used in this thesis.

APPENDIX II

Classified List of Main Verbs[1] in accordance with the Initial System

pv̄h̄

1. pĩr̃ã
2. pisər̃ã
3. pir̥ənã́
4. pejər̃ã́
5. pɛ̃r̃ã
6. pãr̃ã
7. palər̃ã
8. pocər̃ã
9. pornã́
10. pʈʈ̥:ər̃ã
11. pʈʈ̥ãr̃ã
12. pʈjwãr̃ã́
13. pʈlãr̃ã
14. pʈs:ər̃ã
15. pʈsãr̃ã
16. pət̥:ər̃ã
17. pət̥ãr̃ã
18. pək:ər̃ã
19. pəkãr̃ã
20. pəkɑ̃r̥ənã
21. pəkr̥ãr̃ã
22. pəkwãr̃ã
23. pəcãr̃ã
24. pəc:hər̃ã
25. pəchãr̃ã
26. pəcʈãr̃ã
27. pəl:ər̃ã
28. pəx:ər̃ã́
29. pəxãr̃ã́
30. pən:ər̃ã́
31. pənãr̃ã́
32. pərnã́
33. pərãr̃ã́
34. pər̥ənã́
35. pər̥ãr̃ã́
36. pər̥wãr̃ã
37. pər̥ɑ̃knã
38. pərkãr̃ã
39. pãndər̃ã́
40. pɑ̃ãr̃ã
41. pɑ̃cãr̃ã
42. pɑ̃c:h̃ər̃ã
43. pɑ̃chãr̃ã
44. pɑ̃j:ər̃ã́
45. pɑ̃l:ər̃ã́
46. pɑ̃lãr̃ã́
47. pɔ̃n:ər̃ã́
48. pɔ̃nãr̃ã́
49. pɔ̃ɲjər̃ã
50. pɔ̃ɲjãr̃ã
51. pɔ̃r̃ənã
52. pɔ̃r̃ar̃ã
53. tãr̃ənã
54. tarnã
55. tar̥ənã
56. tõr̃ã́

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1 As they appear in the [r̃ã] piece.

pv̄h̄

57. tolə̱ṟã
58. tuṟənã′
59. tτk:ə̱ṟã′
60. tτkã̱ṟã′
61. təp:ə̱ṟã
62. təpã̱ṟã
63. tək:ə̱ṟã
64. tɔkã̱ṟã
65. təs:ə̱ṟã′
66. təsã̱ṟã′
67. təl:ə̱ṟã
68. təlã̱ṟã
69. tə̱ṟənã
70. tərnã
71. tərɑsnã
72. tərsã̱ṟã
73. tə̱ṟɑfnã
74. təṟfã̱ṟã
75. tɑx:ə̱ṟã′
76. tɑxã̱ṟã′
77. tɑl:ə̱ṟã
78. tɑlã̱ṟã
79. tɑ̃n:ə̱ṟã
80. tɑnã̱ṟã
81. t̪ɛ̱ṟã′
82. t̪ã̱ṟã′
83. t̪alə̱ṟã
84. t̪alə̱ṟã′
85. t̪ɛlə̱ṟã′
86. t̪õ̱ṟã′
87. t̪okə̱ṟã
88. t̪ornã
89. t̪ũn̪də̱ṟã′
90. t̪əpã̱ṟã
91. t̪əl:ə̱ṟã
92. t̪əl:ə̱ṟã′
93. t̪əlã̱ṟã′
94. t̪ə̱ɣgə̱ṟã
95. t̪ə̱ɣgã̱ṟã
96. t̪ɑãṟã′
97. t̪ɑt̪:ə̱ṟã
98. t̪ɑk:ə̱ṟã
99. t̪ɑkã̱ṟã
100. t̪ɑ̃ndã̱ṟã′
101. t̪ɑ̃ɣgə̱ṟã
102. t̪ɑ̃ɣgã̱ṟã
103. t̪ɑrnã
104. t̪ɑrã̱ṟã
105. kabɑrnã′
106. kernã′
107. kɛ̱ṟã
108. kaṟənã′
109. kõ̱ṟã
110. kopə̱ṟã′
111. kot̪ə̱ṟã′
112. kolə̱ṟã′
113. kurnã′
114. kτl:ə̱ṟã
115. kτlã̱ṟã
116. kτrnã′
117. kəp:ə̱ṟã
118. kəpã̱ṟã
119. kət:ə̱ṟã
120. kətãṟã
121. kətɑrnã
122. kətrã̱ṟã

pv̄h̄

123. kətɐ̃ɾ̃ɐ̃′
124. kəc:h̃ə̃ɾ̃ɐ̃
125: kəch̃ɐ̃ɾ̃ɐ̃
126. kəd:ə̃ɾ̃ɐ̃
127. kədɐ̃ɾ̃ɐ̃
128. kəj:ə̃ɾ̃ɐ̃
129. kəjɐ̃ɾ̃ɐ̃
130. kəs:ə̃ɾ̃ɐ̃
131. kəs:ə̃ɾ̃ɐ̃′
132. kəsɐ̃ɾ̃ɐ̃
133. kəsɐ̃ɾ̃ɐ̃′
134. kə̃m:ə̃ɾ̃ɐ̃̃
135. kə̃mɐ̃ɾ̃ɐ̃
136. kərnɐ̃
137. kərɐ̃ɾ̃ɐ̃
138. kərɷknɐ′
139. kərə̃nɐ̃
140. kərə̃nɐ̃′
141. kərɐ̃ɾ̃ɐ̃′
142. kərɷxnɐ̃′
143. kɷɐ̃ɾ̃ɐ̃
144. kɷt:ə̃ɾ̃ɐ̃
145. kɷt:ə̃ɾ̃ɐ̃′
146. kɷtɐ̃ɾ̃ɐ̃
147. kɷtɐ̃ɾ̃ɐ̃′
148. kɷd:ə̃ɾ̃ɐ̃
149. kɷdɐ̃ɾ̃ɐ̃
150. kɷl:ə̃ɾ̃ɐ̃′
151. kɷlɐ̃ɾ̃ɐ̃′
152. kə̃m:ə̃ɾ̃ɐ̃′
153. kə̃mɐ̃ɾ̃ɐ̃′
154. kɷrɷknɐ̃′
155. kɷrə̃ɱɐ̃
156. kɷrɐ̃ɾ̃ɐ̃
157. cixə̃ɾ̃ɐ̃
158. cirnɐ̃
159. cɛkə̃ɾ̃ɐ̃′
160. caɾ̃ɐ̃
161. carə̃nɐ̃
162. carə̃nɐ̃′
163. cõɾ̃ɐ̃
164. copɷrə̃nɐ̃
165. cokə̃ɾ̃ɐ̃′
166. cobə̃ɾ̃ɐ̃
167. cupə̃ɾ̃ɐ̃
168. cutə̃ɾ̃ɐ̃′
169. cusə̃ɾ̃ɐ̃
170. cɪt:ñə̃ɾ̃ɐ̃
171. cɪtñɐ̃ɾ̃ɐ̃
172. cɪjɷknɐ′
173. cɪxɐ̃ɾ̃ɐ̃
174. cɪrnɐ̃
175. cɪrɐ̃ɾ̃ɐ̃
176. cɪrɷknɐ̃′
177. cəp:ə̃ɾ̃ɐ̃′
178. cəpɐ̃ɾ̃ɐ̃′
179. cət:ə̃ɾ̃ɐ̃
180. cətɐ̃ɾ̃ɐ̃
181. cək:ñə̃ɾ̃ɐ̃
182. cəkɱɐ̃ɾ̃ɐ̃
183. cəgɷrə̃nɐ̃′
184. cəgrɐ̃ɾ̃ɐ̃′
185. cəl:ə̃ɾ̃ɐ̃
186. cəlɐ̃ɾ̃ɐ̃
187. cəl:ə̃ɾ̃ɐ̃′
188. cəlɐ̃ɾ̃ɐ̃′

pv̄h

189. cəmɷxnã
190. cəmxãr̃ã
191. cəmɷr̲ə̃nã
192. cəmrãr̲̃ã
193. cər̲ə̃nã
194. cər̲ãr̃ã
195. cɷãr̲̃ã
196. cɷpãr̲̃ã
197. cɷt̲ãr̃ã'
198. cɷk:ə̃r̲̃ã
199. cɷk:ə̃r̲̃ã'
200: cɷkãr̲̃ã
201. cɷkãr̲̃ã'
202. cɷb:ə̃r̲̃ã
203. cɷbãr̲̃ã
204. cɷsãr̃ã
205. cɷm:ə̃r̲̃ã
206. cɷmãr̲̃ã
207. cə̃r̲̃ə̃nã
208. cə̃r̲̃ãr̲̃ã
209. cɷrãr̲̃ã

ph .

1. pñẽr̲̃ã
2. phernã
3. pharə̃nã
4. pholə̃r̲̃ã
5. phɪt̲:ə̃r̲̃ã
6. phɪt̲ãr̲̃ã
7. phɪs:ə̃r̲̃ã
8. phɪsãr̲̃ã
9. phɪrnã
10. phɪrãr̲̃ã
11. phət:ə̃r̲̃ã
12. phət̲ãr̲̃ã
13. phək:ə̃r̲̃ã
14. phəkar̲̃ã
15. phəs:ə̃r̲̃ã
16. phəsãr̲̃ã
17. phər̲ãr̲̃ã
18. phər̲ɷknã
19. phər̲kãr̲̃ã
20. phɷt̲:ə̃r̲̃ã
21. phɷt̲ãr̲̃ã
22. phɷl:ə̃r̲̃ã
23. phɷlãr̲̃ã
24. pñə̃nd̲ə̃r̃ã
25. pñə̃nd̲ãr̲̃ã
26. thɪr̲ə̃nã
27. thɪrãr̲̃ã
28. thəp:ə̃r̲̃ã
29: thəpãr̲̃ã
30. thətlãr̲̃ã
31. thək:ə̃r̲̃ã
32. thəkãr̲̃ã
33. thɷk:ə̃r̲̃ã
34. thɷkãr̲̃ã
35. thɷr̲ə̃nã
36. thɷr̲ãr̲̃ã
37. t̲helə̃r̲̃ã
38. t̲hɛrnã
39. t̲hokə̃r̲̃ã
40. t̲həp:ə̃r̲̃ã
41. t̲həpãr̲̃ã
42. t̲həg:ə̃r̲̃ã
43. t̲hərãr̲̃ã

44. thɔk:ə̃r̃ã
45. thɔkã̃r̃ã
46. khedə̃r̃ã
47. kh̃ã̃r̃ã
48. kh̃õ̃r̃ã
49. khotɔrnã
50. khobə̃r̃ã
51. kholə̃r̃ã
52. khtdã̃r̃ã
53. khtsɔknã
54. khtskã̃r̃ã
55. khtlarnã
56. khtrə̃ñã
57. khtrã̃r̃ã
58. khəp:ə̃r̃ã
59. khət:ə̃r̃ã
60. khətã̃r̃ã
61. kh̃ə̃ŋgə̃r̃ã
62. khərɔknã
63. khərkã̃r̃ã
64. khɔtrã̃r̃ã
65. khɔb:ə̃r̃ã
66. khɔl:ə̃r̃ã
67. khɔlã̃r̃ã
68. khɔrɔknã
69. khɔrkã̃r̃ã
70. khɔrɔcnã
71. khɔrcã̃r̃ã
72. cherə̃nã
73. chapə̃r̃ã
74. ch̃ã̃r̃ə̃nã
75. chorə̃nã
76. chtk:ə̃r̃ã
77. chtkã̃r̃ã
78. chtl:ə̃r̃ã
79. chtlã̃r̃ã
80. chtrə̃nã
81. chtrã̃r̃ã
82. chtrɔknã
83. chtrkã̃r̃ã
84. chəp:ə̃r̃ã
85. chəpã̃r̃ã
86. chət:ə̃r̃ã
87. chətã̃r̃ã
88. cñə̃ndə̃r̃ã
89. cñə̃ndã̃r̃ã
90. chɔp:ə̃r̃ã
91. chɔpã̃r̃ã
92. chɔt:ə̃r̃ã
93. chɔrã̃r̃ã

pv

1. bɛ̃r̃ã
2. balə̃r̃ã
3. bokə̃r̃ã
4. bolə̃r̃ã
5. bttñã̃r̃ã
6. bəc:ə̃r̃ã
7. bəcã̃r̃ã
8. bədɔlnã
9. bədlã̃r̃ã
10. bəxɔsnã
11. bəxsã̃r̃ã
12. bəl:ə̃r̃ã
13. bə̃r̃ə̃nã
14. bə̃r̃ã̃r̃ã
15. bərɔknã
16. bərkã̃r̃ã

pv

17. bɒj:ə̃r̃ã
18. bɒjã̠r̃ã
19. bɒlã̠r̃ã
20. dẽ̠r̃ã
21. do̠rənã
22. dτs:ə̃r̃ã
23. dτslã̠r̃ã
24. dτwã̠r̃ã
25. dəb:ə̃r̃ã
26. dəbã̠r̃ã
27. dəl:ə̃r̃ã
28. dəlã̠r̃ã
29. dəs:ə̃r̃ã
30. dɒk:ñə̃r̃ã
31. dɒkñã̠r̃ã
32. dɒ̠rã̠r̃ã
33. d̠ã̠r̃ã
34. d̠obə̃r̃ã
35. d̠olə̃r̃ã
36. d̠ək:ə̃r̃ã
37. d̠əkã̠r̃ã
38. d̠ərnã
39. d̠ərã̠r̃ã
40. d̠ɒb:ə̃r̃ã
41. d̠ɒbã̠r̃ã
42. d̠ɒl:ə̃r̃ã
43. d̠ɒlã̠r̃ã
44. gã̠r̃ã
45. galə̃r̃ã
46. god̠ə̃r̃ã
47. gt̃r̃ənã
48. gt̃r̃ã̠r̃ã
49. gəj:ə̃r̃ã
50. gəl:ə̃r̃ã
51. gɒã̠r̃ã
52. gɒzɒrnã
53. gɒzarnã
54. gɑ̃nã̠r̃ã
55. gɑ̃n:ə̃r̃ã
56. jĩr̃ã
57. jitə̃r̃ã
58. jã̠r̃ã
59. jagə̃r̃ã
60. jã̠r̃ənã
61. jotə̃r̃ã
62. jos̠ə̃r̃ã
63. jo̠rənã
64. jτtã̠r̃ã
65. jəgã̠r̃ã
66. jəm:ə̃r̃ã
67. jəmã̠r̃ã
68. jə̃r̃ənã
69. jə̠r̃ã̠r̃ã
70. jɒs̠ã̠r̃ã
71. jɒ̠rənã
72. jɒ̠rã̠r̃ã

p̄

1. likə̃r̃ã
2. le̠tə̃r̃ã
3. lɛ̃r̃ã
4. lɛkə̃r̃ã
5. lo̠rənã
6. lτã̠r̃ã

p̄

7. lɪp̄:ñəɾ̃ã
8. lɪp̄ñãɾ̃ã
9. lɪkãɾ̃ã
10. lɪk̄:ñəɾ̃ã
11. lɪk̄ñãɾ̃ã
12. lt̃m:əɾ̃ã
13. lt̃mãɾ̃ã
14. ləpɑɾ̃ənã
15. ləpɾ̃ãɾ̃ã
16. ləṭɑknã
17. ləṭkaɾ̃ã
18. ləb:əɾ̃ã
19. ləd:əɾ̃ã
20. ləg:əɾ̃ã
21. lədãɾ̃ã
22. ləgãɾ̃ã
23. lərɑznã
24. lərzãɾ̃ã
25. ləɾənã
26. ləɾ̃ãɾ̃ã
27. lɑãɾ̃ã
28. lɑṭ:əɾ̃ã
29. lɑṭãɾ̃ã
30. mecəɾ̃ã
31. meləɾ̃ã
32. mɛkəɾ̃ã
33. marnã
34. moɾ̃ənã
35. mutɑrnã
36. muṭəɾ̃ã
37. mɪṭ:əɾ̃ã
38. mɪṭãɾ̃ã
39. mɪcwãɾ̃ã
40. mɪl:əɾ̃ã
41. mɪlãɾ̃ã
42. mt̃ɾ̃ənã
43. mt̃ɾ̃ãɾ̃ã
44. məc:əɾ̃ã
45. məcãɾ̃ã
46. məl:əɾ̃ã
47. məlãɾ̃ã
48. məɲ:əɾ̃ã
49. məñãɾ̃ã
50. məndəɾ̃ã
51. məndãɾ̃ã
52. məŋgəɾ̃ã
53. məŋgãɾ̃ã
54. məɲjãɾ̃ã
55. mərnã
56. mərãɾ̃ã
57. mərwãɾ̃ã
58. mərorɾ̃ənã
59. mərɾ̃ənã
60. mərãɾ̃ã
61. mɑtrãɾ̃ã
62. mɑṭãɾ̃ã
63. mɑk:əɾ̃ã
64. mɑkãɾ̃ã
65. mɑ̃n:əɾ̃ã
66. mɑ̃nãɾ̃ã
67. mɑɾ̃ənã
68. mɑɾ̃ãɾ̃ã
69. nãɾ̃ã
70. ntb:əɾ̃ã
71. ntbãɾ̃ã
72. ntkɑlnã
73. ntɣɑlnã
74. nəc:əɾ̃ã

p̄

75. nəcãr̃ã
76. nəcorə̃nã
77. nəs:ər̃ã
78. nəsãr̃ã
79. nɑãr̃ã
80. nɑcɑr̃ənã
81. sɪr̃ã
82. sɛr̃ã
83. sekər̃ã
84. sɛr̃ã
85. sɛkər̃ã
86. sar̃ənã
87. sõr̃ã
88. socər̃ã
89. sur̃ã
90. stk:ñər̃ã
91. stkñãr̃ã
92. stj:ər̃ã
93. stwãr̃ã
94. sətãr̃ã
95. sət:ər̃ã
96. sətãr̃ã
97. səd:ər̃ã
98. sədãr̃ã
99. səj:ər̃ã
100. səjãr̃ã
101. səl:ər̃ã
102. səlãr̃ã
103. səmalər̃ã
104. səmɑlnã
105. səmɑjnã
106. səmjãr̃ã
107. sər̃ənã
108. sər̃ãr̃ã
109. sɑãr̃ã
110. sɑk:ər̃ã
111. sɑkãr̃ã
112. sɑj:ər̃ã
113. sɑjãr̃ã
114. sɑlɑjnã
115. sɑljãr̃ã
116. sãŋgər̃ã
117. sãŋgãr̃ã
118. sãr̃ənã
119. sãr̃ãr̃ã
120. rɛr̃ã
121. rãr̃ənã
122. rokər̃ã
123. ror̃əñã
124. rir̃ɑknã
125. rtr̃kãr̃ã
126. rət̠:ər̃ã
127. rətãr̃ã
128. rək:ñər̃ã
129. rəkñãr̃ã
130. rəgɑr̃ənã
131. rəgr̃ãr̃ã
132. rəj:ər̃ã
133. rəjãr̃ã
134. rəl:ər̃ã
135. rəlãr̃ã
136. rəŋgər̃ã
137. rəŋgãr̃ã
138. rɑk:ər̃ã
139. rɑkãr̃ã
140. rɑs:ər̃ã
141. rɑsãr̃ã
142. rɑl:ər̃ã

p̄

143. rɑlãr̃ã
144. rɑr̲ənã
145. rɑr̲ãr̃ã
146. harnã
147. hɪs:ər̃ã
148. hɪl:ər̃ã
149. hɪlãr̃ã
150. hət̲:ər̃ã
151. hət̲ãr̃ã
152. həs:ər̃ã
153. həsãr̃ã
154. həlãr̃ã
155. hərãr̃ã
156. hɑg:ər̃ã
157. hɑgãr̃ã
158. wetɑrnã
159. wekãr̃ã
160. wecər̃ã
161. warnã
162. war̲ənã
163. wɪtrãr̃ã
164. wɪk:ər̃ã
165. wɪkãr̃ã
166. wɪc:ɲər̃ã
167. wɪcɲãr̃ã
168. wɪgɑr̲ənã
169. wɪgr̲ãr̃ã
170. wɪsɑrnã
171. wɪsrãr̃ã
172. wət̲:ər̃ã
173. wət̲ãr̃ã
174. wəd:ər̃ã
175. wədãr̃ã
176. wəg:ər̃ã
177. wəgãr̃ã
178. wəj:ər̃ã
179. wəjãr̃ã
180. wəs:ər̃ã
181. wəsãr̃ã
182. wərɑtnã
183. wərtãr̃ã
184. wər̲ənã

APPENDIX II

English Translation

pv̄h̄

1. To drink
2. " grind
3. " shut
4. " send
5. " be worn
6. " wear
7. " bring up
8. " reach
9. " turn into pieces
10. " mourn (cry)
11. " cause to cry
12. " cause to send
13. " cause to drink
14. To be ground
15. " cause to grind
16. " uproot
17. " cause to be uprooted
18. " ripe
19. " cook
20. " catch
21. " Cause to be caught
22. " to cook
23. To digest
24. " cut
25. " mislead
26. " repent
27. " grow
28. " glow
29. " Cause to glow
30. To brēak
31. " Cause to be broken
32. To fillin
33. Cause to be filled in
34. To read
35. " teach
36. " Cause to teach
37. To be excited
38. " excite
39. " betray
40. " put on
41. " cause to reach
42. " ask
43. " investigate
44. " be grilled
45. " forget
46. " Cause to forget
47. To grill
48. " get grilled
49. " clean
50. " Cause to clean
51. To abuse
52. " Cause to be abused
53. To erect
54. " afloat
55. " watch
56. " wash
57. " weigh
58. " sprinkle
59. " push
60. " Cause to be pushed
61. To become warm
62. To make warm

pv̄h̄

63. To see
64. " show
65. " sink
66. " cause to be sunk
67. " fry
68. " cause to be fried
69. " be erected
70. " swim
71. " desire
72. " cause to desire
73. " toss head
74. " cause to toss head
75. " smoke
76. " make smoke
77. " be weighed
78. " get measured
79. " squeeze
80. " feed too much
81. " fall down
82. " pull down
83. " put off
84. " mould
85. " stroke
86. " remove
87. " forbid
88. " see off
89. " look for
90. " spend time
91. " be put off
92. " be moulded
93. " cause to be moulded
94. " hang
95. " cause to be hanged
96. " cause to be pulled down
97. To break
98. " bite
99. " cause to be bitten
100. " cause to be searched
101. " lift
102. " cause to be lifted
103. " walk
104. " cause to walk
105. " be harrased
106. " encircle
107. " tell
108. " melt
109. " kill
110. " strangle
111. " liquidise
112. " dissolve
113. " gaze at
114. " shout
115. " clean
116. " be encircled
117. " cut
118. " cause to be cut
119. " spin
120. " get spinned
121. " cut the cloth
122. " get the cloth cut
123. " decrease
124. " measure
125. " get measured
126. " push out
127. " be pushed out
128. " cover
129. " get covered
130. " tighten

pv̄h

131. To rub
132. " get tightened
133. " get rubbed
134. " tremble
135. " earn
136. " do
137. " get done
138. " toss with pain
139. " melt
140. " chissle
141. " cause to be melted
142. " shout
143. " cause to speak
144. " beat
145. " squeeze
146. " cause to beat
147. " cause to be squeezed
148. " jump
149. " cause to jump
150. " fight
151. " cause to fight
152. " move round
153. " cause to move round
154. " threaten
155. " grumble
156. " cause to grumble
157. " shout
158. " saw
159. " chirp
160. " wish
161. " climb
162. " dust
163. " milk
164. " grease
165. " push into
166. To prick
167. " chew
168. " swing
169. " suck
170. " chew
171. " cause to chew
172. " hesitate
173. " cause to cry
174. " be sawn
175. " cause to be sawn
176. " intimidate
177. " catch
178. " cause to be caught
179. " lick
180. " cause to lick
181. " taste
182. " cause to taste
183. " quarrel
184. " cause to quarrel
185. " walk
186. " cause to walk
187. " bear
188. " cause to be born
189. " shine
190. " "
191. " stick
192. " cause to be
193. " climb
194. " cause to climb
195. " cause to be milked
196. " cause to chew
197. " cause to swing
198. " lift

199. To bend
200. " cause to lift
201. " cause to bend
202. " sting
203. " cause to sting
204. " cause to suck
205. " kiss
206. " cause to be kissed
207. " pluck
208. " cause to be plucked
209. " steal

ph

1. To press
2. " move round
3. " tear off
4. " investigate
5. " go off (milk)
6. " spoil
7. " be pressed
8. " cause to be pressed
9. " walk
10. " cause to walk
11. " burst out
12. " cause to be burst off
13. " swallow
14. " cause to swallow
15. " be entangled
16. " entangle
17. " cause to be burst out
18. " toss head
19. " cause to toss head
20. " eat
21. To tease
22. " swell
23. " cause to swell
24. " shoot
25. " cause to shoot
26. " get off the track
27. " put off the track
28. " plaster
29. " get plastered
30. " stutter
31. " be tired
32. " make tired
33. " spit
34. " cause to spit
35. " be short of supply
36. " make short of supply
37. " push
38. " stop
39. " bang
40. " fold
41. " cause to fold
42. " cheat
43. " stop
44. " be banged
45. " cause to be banged
46. " play
47. " eat
48. " snatch away
49. " dig
50. " penetrate
51. " open
52. " make to play
53. " move slightly
54. " shift slightly
55. " spread

ph

56. To bloom
57. " cause to bloom
58. " be assimidated
59. " earn
60. " make/earn to
61. " cough
62. " wrattle
63. " cause to wrattle
64. " cause to dig
65. To be penetrated
66. To be opened
67. " cause to be opened
68. " scratch
69. " cause to be scratched
70. " scratch
71. " cause to scratch
72. " irritate
73. " print
74. " sift
75. " leave
76. " pull
77. " cause to pull
78. " peel
79. " cause to peel
80. " be irritated
81. " cause to be irritated
82. " spray
83. " get sprayed
84. " be printed
85. " get printed
86. " roof
87. To get the roof done
88. " dust
89. " get dusted
90. " hide
91. " conceal
92. " be released
93. " get someone released

pv

1. To sit down
2. " light
3. " talk non-sense
4. " speak
5. " make someone sit down
6. " be left out
7. " leave out
8. " be changed
9. " change
10. " forgive
11. " cause someone to be forgiven
12. " burn
13. " be made
14. " make
15. " boil
16. " cause to boil
17. " be put off
18. " put off
19. " call
20. " give away

pv

21. To run
22. " be seen
23. " show
24. " cause to give away
25. " bury
26. " get buried
27. " grat
28. " get (something) grated
29. " show
30. " be injured
31. " injure someone
32. " make (someone) run
33. " lay down
34. " sink
35. " throw away
36. " shut
37. " get someone shut
38. " be frightened
39. " frighten
40. " be drowned
41. " drown
42. " be thrown away
43. " cause to be thrown away
44. " sing
45. " simmer
46. " weed
47. " count
48. " cause to be counted
49. " make thundry noise
50. " be simmered
51. " make someone to sing
52. To pass along
53. " pass through
54. " cause to be kneaded
55. " knead
56. " live
57. " win
58. " go
59. " be awake
60. " know
61. " harness (a horse etc.)
62. " boil
63. " join
64. " cause to win
65. " awake
66. " freeze
67. " cause to freeze
68. " deliver (a baby)
69. " cause to deliver a baby
70. " boil
71. " be joined
72. " cause to be joined

p̄

1. To trace
2. " lie down
3. " take
4. " swing
5. " overlook
6. " bring
7. " bend (non-causative)

p̄

8. To bend (causative)
9. " get traced
10. " write
11. " get written
12. " plaster
13. " get plastered
14. " catch
15. " get caught
16. " hahg (non-causative)
17. " hang (causative)
18. " find out
19. " load
20. " be put on
21. " get loaded
22. " put on
23. " shiver
24. " cause to shiver
25. " fight
26. " cause to fight
27. " get unloaded
28. " plunder
29. " spend (money)lavishly
30. " measure
31. " sweep
32. " give fragrance
33. " beat
34. " turn round
35. " make water
36. " shut
37. " be vanished
38. " vanish
39. " get measured
40. " meet
41. To mix
42. " measure
43. " get measured
44. " be naughty
45. " make noise
46. " rub
47. " get rubbed
48. " be pacified
49. " make pacified
50. " penetrate
51. " cause to penetrate
52. " ask for (something)
53. " order (something)
54. " clean (utensils)
55. " die
56. " get beaten
57. " cause to be beaten
58. " twist
59. " cover
60. " get covered
61. " cause to make water
62. " cause to shut
63. " be finished
64. " finish
65. " shave
66. " be shaved
67. " turn round
68. " cause to turn round
69. " bathe
70. " get on well
71. " put up with
72. " get out
73. " swallow

p̄

74. To dance
75. " cause someone to dance
76. " rinse
77. " run
78. " kidnap
79. " give bath
80. " be wet
81. " sew
82. " drench
83. " warm
84. " bear
85. " long for
86. " burn
87. " go to sleep
88. " think
89. " deliver (a baby)
90. " learn
91. " teach
92. " be wet
93. " get(something) sewn
94. " tease
95. " throw away
96. " cause to throw away
97. " call (someone)
98. " cause to call someone
99. " be decorated
100. " decorate
101. " plead guilty
102. " cause (someone) to plead guilty
103. " manage
104. " control (one self)
105. " understand
106. To make (someone) to understand
107. " burn
108. " cause to be rotten
109. " cause to sleep
110. " dry (non-causative)
111. " dry (causative)
112. " swell
113. " cause to swell
114. " be solved
115. " solve
116. " smell (non-causative)
117. " smell (causative)
118. " listen to
119. " tell
120. " live
121. " pacify
122. " stop
123. " afloat
124. " whisk
125. " cause to be whisked
126. " memorize
127. " cause to memorize
128. " put down
129. " cause to put down
130. To rub
131. " get rubbed
132. " be full
133. " feed well
134. " be mixed
135. " mix
136. " dye
137. " get dyed

p̄

138. To stop
139. " make (someone) stop
140. " be annoyed
141. " annoy
142. " wonder
143. " cause (someone)to wonder
144. " float
145. " afloat
146. " be defeated
147. " be reduce
148. " be used to
149. " make used to
150. " be removed
151. " remove
152. " laugh
153. " make (someone) laugh
154. " move
155. " defeat
156. " become famous
157. " make famous
158. " cut (clothes)
159. " see
160. " sell
161. " sacrifice
162. " penetrate
163. " get (the clothes) cut
164. " be sold
165. " cause to be sold
166. " be spread
167. " spread
168. " be angry
169. " make angry
170. To be separated
171. " separate
172. " earn
173. " buy
174. " move forward
175. " extend
176. " drain (non-causative)
177. " drain (causative)
178. " ring (non-causative)
179. " ring (causative)
180. " rain
181. " cause to rain
182. " use
183. " serve (food etc.)
184. " enter

APPENDIX III

Classified List of Main Verbs[1] in accordance with Final System and Intra-verbal Junction System.

cndr

1. tũndəɾ̃ã′
2. pəndəɾ̃ã′
3. chəndəɾ̃ã
4. məndəɾ̃ã
5. pɱ̃ɔ̃ndəɾ̃ã

cndr̄

1. t̪ə̃ŋgəɾ̃ã
2. kɱ̃ə̃ŋgəɾ̃ã
3. mə̃ŋgəɾ̃ã
4. rə̃ŋgəɾ̃ã
5. tɔ̃ŋgəɾ̃ã
6. sɔ̃ŋgəɾ̃ã
7. mã̃ɲjəɾ̃ã
8. pɔ̃ɲjəɾ̃ã
9. mə̃ɲjəɾ̃ã
10. pə̃ɲjəɾ̃a

cnfrn

1. tãɾ̃əɾ̃nã
2. chãɾ̃əɾ̃nã
3. jãɾ̃əɾ̃nã
4. rãɾ̃əɾ̃nã
5. gt̃ɾ̃əɾ̃nã
6. mt̃ɾ̃əɾ̃nã
7. təɾ̃əɾ̃nã

cncs

1. lt̃m:əɾ̃ã
2. kə̃m:əɾ̃ã
3. jəm:əɾ̃ã
4. kɔ̃m:əɾ̃ã′
5. cɔ̃m:əɾ̃ã
6. pən:əɾ̃ã
7. mən:əɾ̃ã
8. pɔ̃n:əɾ̃ã′
9. tɔ̃n:əɾ̃ã
10. gɔ̃n:əɾ̃ã
11. mɔ̃n:əɾ̃ã

cn̄cs̄

1. pʏs:əɾ̃ã
2. phʏs:əɾ̃ã
3. hʏs:əɾ̃ã
4. phəs:əɾ̃ã
5. təs:əɾ̃ã′

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1 As they appear in the [ɾ̃ã] piece

cn̄cs̄

6. kəs:ə̃r̃ã
7. kəs:ə̃r̃ã′
8. dəs:ə̃r̃ã
9. nəs:ə̃r̃ã
10. həs:ə̃r̃ã
11. wəs:ə̃r̃ã
12. pəx:ə̃r̃ã′
13. rɷs:ə̃r̃ã
14. tɷx:ə̃r̃ã′
15. kʈl:ə̃r̃ã
16. chʈl:ə̃r̃ã
17. mʈl:ə̃r̃ã
18. hʈl:ə̃r̃ã
19. pəl:ə̃r̃ã
20. təl:ə̃r̃ã
21. t̪əl:ə̃r̃ã′
22. cəl:ə̃r̃ã
23. cəl:ə̃r̃ã′
24. bəl:ə̃r̃ã
25. dəl:ə̃r̃ã
26. gəl:ə̃r̃ã
27. məl:ə̃r̃ã
28. səl:ə̃r̃ã
29. həl:ə̃r̃ã
30. rəl:ə̃r̃ã
31. phɷl:ə̃r̃ã
32. pɷl:ə̃r̃ã′
33. tɷl:ə̃r̃ã
34. khɷl:ə̃r̃ã
35. kɷl:ə̃ra′
36. d̪ɷl:ə̃r̃ã
37. rɷl:ə̃r̃ã

cn̄cs

1. pisə̃r̃ã
2. cusə̃r̃ã
3. jos̪ə̃r̃ã
4. cixə̃r̃ã
5. t̪helə̃r̃ã
6. melə̃r̃ã
7. t̪ɛlə̃r̃ã
8. palə̃r̃ã
9. t̪alə̃r̃ã
10. talə̃r̃ã′
11. balə̃r̃ã
12. galə̃r̃ã
13. səmalə̃r̃ã
14. pholə̃r̃ã
15. tolə̃r̃ã
16. kholə̃r̃ã
17. kolə̃r̃ã′
18. bolə̃r̃ã
19. d̪olə̃r̃ã

cn̄frn̄

1. pir̪ənã′
2. cher̪ənã
3. phar̪ənã
4. tar̪ənã
5. kar̪ənã′
6. car̪ənã
7. car̪ənã′
8. ɷjar̪ənã
9. sar̪ənã
10. war̪ənã

cn̄frn̄

11. chorənã
12. nəcorənã
13. dorənã
14. jorənã
15. lorənã
16. morənã
17. rorənã
18. mərorənã
19. turənã'
20. thtrənã
21. khtrənã
22. chtrənã
23. pərənã'
24. kərənã
25. kərənã'
26. cərənã
27. jərənã
28. ɭərənã
29. mərənã
30. sərənã
31. wərənã
32. thərənã
33. kərənã
34. jərənã
35. mərənã
36. rərənã

cn̄fr̄

1. cirnã
2. phernã
3. kernã'
4. thɛrrã
5. tarnã
6. khtlarnã
7. marnã
8. gəzɛrnã
9. warnã
10. harnã
11. pornã'
12. tornã
13. kurnã'
14. phtrnã
15. ktrnã'
16. ctrnã
17. pərnã'
18. tərnã
19. kərnã
20. dərnã
21. mərnã
22. pərnã'

phs̄r̄

1. ltp:ñãr̃ã
2. ctt:ñãr̃ã
3. ltk:ñãr̃ã
4. stk:ñãr̃ã
5. wtc:ñãr̃ã
6. cək:ñãr̃ã
7. rək:ñãr̃ã
8. pəc:ñãr̃ã
9. kəc:ñãr̃ã
10. dək:ñãr̃ã
11. pəc!ñãr̃ã

phsr

1. ɑt:ñəɾ̃ə

pvsr

1. ntb:əɾ̃ə
2. dəb:əɾ̃ə
3. ləb:əɾ̃ə
4. khɑb:əɾ̃ə
5. cɑb:əɾ̃ə
6. dɑb:əɾ̃ə
7. səd:əɾ̃ə
8. ləd:əɾ̃ə
9. wəd:əɾ̃ə
10. kɑd:əɾ̃ə
11. thəg:əɾ̃ə
12. ləg:əɾ̃ə
13. wəg:əɾ̃ə
14. hɑg:əɾ̃ə
15. stj:əɾ̃ə
16. kəj:əɾ̃ə
17. gəj:əɾ̃ə
18. səj:əɾ̃ə
19. rəj:əɾ̃ə
20. wəj:əɾ̃ə
21. pɑj:əɾ̃ə'
22. bɑj:əɾ̃ə
23. sɑj:əɾ̃ə

pvsr

1. kəd:əɾ̃ə
2. ɑd:əɾ̃ə

phvsr

1. təp:əɾ̃ə
2. thəp:əɾ̃ə
3. thəp:əɾ̃ə
4. kəp:əɾ̃ə
5. chəp:əɾ̃ə
6. cəp:əɾ̃ə'
7. chɑp:əɾ̃ə
8. kət:əɾ̃ə
9. chət:əɾ̃ə
10. jɑt:əɾ̃ə
11. ttk:əɾ̃ə'
12. chtk:əɾ̃ə
13. wtk:əɾ̃ə
14. pək:əɾ̃ə
15. phək:əɾ̃ə
16. tək:əɾ̃ə
17. thək:əɾ̃ə
18. dək:əɾ̃ə
19. thɑk:əɾ̃ə
20. tɑk:əɾ̃ə
21. thɑk:əɾ̃ə
22. cɑk:əɾ̃ə
23. cɑk:əɾ̃ə'
24. sɑk:əɾ̃ə
25. mɑk:əɾ̃ə
26. rɑk:əɾ̃ə
27. bəc:əɾ̃ə
28. məc:əɾ̃ə
29. nəc:əɾ̃ə

phvsr

1. ptt:əɾ̃ə
2. phtt:əɾ̃ə

pʰv̄s̄r

3. mʈt̪ːəɽ̃ã
4. pət̪ːəɽ̃ã
5. pʰət̪ːəɽ̃ã
6. kət̪ːəɽ̃ã′
7. kʰət̪ːəɽ̃ã
8. cət̪ːəɽ̃ã
9. rət̪ːəɽ̃ã
10. wət̪ːəɽ̃ã
11. pʰɑ̤t̪ːəɽ̃ã
12. tɑ̤t̪ːəɽ̃ã
13. kɑ̤t̪ːəɽ̃ã
14. kɑ̤t̪ːəɽ̃ã′
15. cʰɑ̤t̪ːəɽ̃ã
16. lɑ̤t̪ːəɽ̃ã

pʰv̄s̄r̄

1. chapəɽ̃ã
2. kopəɽ̃ã
3. cupəɽ̃ã
4. jitəɽ̃ã
5. likəɽ̃ã
6. sekəɽ̃ã
7. wekəɽ̃ã
8. cɛkəɽ̃ã
9. sɛkəɽ̃ã
10. lɛkəɽ̃ã
11. mɛkəɽ̃ã
12. t̪okəɽ̃ã
13. t̪hokəɽ̃ã
14. cokəɽ̃ã′
15. bokəɽ̃ã
16. rokəɽ̃ã
17. kukəɽ̃ã
18. mecəɽ̃ã
19. wecəɽ̃ã
20. pocəɽ̃ã
21. socəɽ̃ã

pʰv̄sr

1. let̪əɽ̃ã
2. kot̪əɽ̃ã′
3. cut̪əɽ̃ã′
4. mut̪əɽ̃ã

pvs̄r

1. khobəɽ̃ã
2. cobəɽ̃ã
3. d̪obəɽ̃ã
4. jagəɽ̃ã
5. pejəɽ̃ã′

pvsr

1. khed̪əɽ̃ã
2. god̪əɽ̃ã

ɑ̤r

1. copɑ̤rənã
2. ləpɑ̤rənã
3. akɑ̤rənã
4. pəkɑ̤rənã
5. nɑ̤cɑ̤rənã
6. wʈgɑ̤rənã
7. cəgɑ̤rənã′
8. rəgɑ̤rənã
9. ɑ̤jɑ̤rənã
10. cəmɑ̤rənã

ɑ̤r̄

1. wərɑ̤tnã

ɔr̄

2. ətɔknã
3. ləṯɔknã
4. cɪjɔknã'
5. khɪsɔknã
6. kərɔknã'
7. khɔrɔknã
8. kɔrɔknã'
9. khərɔknã
10. chɪrɔknã
11. cɪrɔknã'
12. rɪrɔknã
13. phərɔknã
14. pərɔknã'
15. bərɔknã
16. xərɔcnã
17. khɔrɔcnã
18. səmɔjnã
19. ɔlɔjnã
20. sɔlɔjnã
21. tərɔfnã
22. tərɔsnã
23. bəxɔsnã
24. cəmɔxnã
25. kərɔxnã
26. lərɔznã
27. nɪkɔlnã
28. nɪɣɔlnã
29. səmɔlnã
30. wetɔrnã
31. kabɔrnã'
32. khotɔrnã
33. mutɔrnã
34. wɪsɔrnã
35. kətɔrnã
36. kəsɔrnã
37. gɔzɔrnã

o̲

1. pĩr̃ã
2. jĩr̃ã
3. sĩr̃ã
4. pñẽr̃ã
5. dẽr̃ã
6. sẽr̃ã
7. pɛ̃r̃ã
8. ṯɛ̃r̃ã'
9. kɛ̃r̃ã
10. bɛ̃r̃ã
11. sɛ̃r̃ã
12. lɛ̃r̃ã
13. rɛ̃r̃ã
14. ãr̃ã
15. pãr̃ã
16. tãr̃ã
17. kñãr̃ã
18. cãr̃ã'
19. d̲ãr̃ã
20. gãr̃ã
21. jãr̃ã
22. tõr̃ã'
23. ṯõr̃ã'
24. kñõr̃ã
25. kõr̃ã'
26. cor̃ã
27. sõr̃ã

28. rõr̃a
29. sũr̃ã
30. lʱr̃ã
31. pɷr̃ã
32. tɷsr̃ã'
33. kɷr̃ã
34. cɷr̃ã
35. gɷr̃ã
36. sɷr̃ã
37. lɷr̃ã
38. nɷr̃ã
39. lɪpñãr̃ã
40. təpãr̃ã
41. thəpãr̃ã
42. t̪əpãr̃ã
43. thəpãr̃ã
44. kəpãr̃ã
45. chəpãr̃a
46. cəpãr̃ã'
47. cɷpãr̃ã
48. chɷpãr̃ã
49. jɪtãr̃ã
50. cɪtñãr̃ã
51. kɘtãr̃ã
52. chɘtãr̃ã
53. sɘtãr̃ã
54. jɷtãr̃ã
55. pɪtãr̃ã
56. phɪtãr̃ã
57. bɪtñãr̃ã
58. pɘtãr̃ã
59. phɘtãr̃ã
60. khɘtãr̃ã
61. kɘtãr̃ã
62. cɘtãr̃ã
63. sɘtãr̃ã
64. rɘtãr̃ã
65. wɘtãr̃ã
66. hɘtãr̃ã
67. phɷtãr̃ã
68. kɷtãr̃ã
69. kɷtãr̃ã'
70. cɷtãr̃ã'
71. lɷtãr̃ã
72. mɷtãr̃ã
73. ɷtñãr̃ã
74. ʧɪkãr̃ã'
75. chɪkãr̃ã
76. lɪkãr̃ã
77. wɪkãr̃ã
78. lɪkñãr̃ã
79. sɪkñãr̃ã
80. pəkãr̃ã
81. phəkãr̃ã
82. təkãr̃ã
83. thəkãr̃ã
84. d̪əkãr̃ã
85. cəkñãr̃ã
86. rəkñãr̃ã
87. thɷkãr̃ã
88. tɷkãr̃ã
89. thɷkãr̃ã
90. cɷkãr̃ã
91. cɷkãr̃ã'
92. sɷkãr̃ã
93. mɷkãr̃ã

94. rɒkãr̃ã
95. dɒkñãr̃ã
96. wɪcñãr̃ã
97. pəcãr̃ã
98. bəcãr̃ã
99. məcãr̃ã
100. nəcãr̃ã
101. pəcñãr̃ã
102. kəcñãr̃ã
103. pɒcñãr̃ã
104. nɪbãr̃ã
105. dəbãr̃ã
106. cɒbãr̃ã
107. dɒbãr̃ã
108. sədãr̃ã
109. lədãr̃ã
110. wədãr̃ã
111. kɒdãr̃ã
112. khɪdãr̃ã
113. kədãr̃ã
114. ɒdãr̃ã
115. jəgãr̃ã
116. ləgãr̃ã
117. wəgãr̃ã
118. hɒgãr̃ã
119. kəjãr̃ã
120. səjãr̃ã
121. rəjãr̃ã
122. wəjãr̃ã
123. bɒjãr̃ã
124. sɒjãr̃ã
125. pɪsãr̃ã
126. phɪsãr̃ã
127. phəsãr̃ã
128. təsãr̃ã′
129. kəsãr̃ã
130. kəsãr̃ã′
131. nəsãr̃ã
132. wəsãr̃ã
133. həsãr̃ã
134. cɒsãr̃ã
135. rɒsãr̃ã
136. jɒsãr̃ã
137. cɪxãr̃ã
138. pəxãr̃ã′
139. tɒxãr̃ã
140. pɪlãr̃ã
141. kɪlãr̃ã
142. mɪlãr̃ã
143. hɪlãr̃ã
144. təlãr̃ã
145. cəlãr̃ã
146. cəlãr̃ã′
147. dəlãr̃ã
148. gəlãr̃ã
149. səlãr̃ã
150. məlãr̃ã
151. rəlãr̃ã
152. həlãr̃ã
153. phɒlãr̃ã
154. pɒlãr̃ã′
155. tɒlãr̃ã
156. khɒlãr̃ã
157. kɒlãr̃ã′

158. bɑlãr̃ã
159. dɑlãr̃ã
160. lɪmãr̃ã
161. dɪwãr̃ã
162. kə̃mãr̃ã
163. jə̃mãr̃ã
164. kɑ̃mãr̃ã'
165. pə̃nãr̃ã'
166. mə̃nãr̃ã
167. pə̃nãr̃ã'
168. tə̃nãr̃ã'
169. gɑ̃nãr̃ã
170. mə̃nãr̃ã
171. gt̃r̃ãr̃ã
172. mt̃r̃ãr̃ã
173. bə̃r̃ãr̃ã
174. jə̃r̃ãr̃ã
175. pɑ̃r̃ãr̃ã
176. cɑ̃r̃ãr̃ã
177. sɑ̃rãr̃ã
178. chə̃ndãr̃ã
179. mə̃ndãr̃ã
180. phə̃ndãr̃ã
181. tɑ̃ndãr̃ã'
182. tə̃ŋgãr̃ã
183. mə̃ŋgãr̃ã
184. rə̃ŋgãr̃ã
185. tɑ̃ŋgãr̃ã
186. sɑ̃ŋgãr̃ã
187. mə̃ŋjãr̃ã
188. pɑ̃ŋjãr̃ã
189. phɪrãr̃ã
190. cɪrãr̃ã
191. stwãr̃ã
192. pərãr̃ã'
193. thərãr̃ã
194. dərãr̃ã
195. mərãr̃ã
196. hərãr̃ã
197. tɑrãr̃ã
198. cɑrãr̃ã
199. ptrãr̃ã'
200. thtrãr̃ã
201. khtrãr̃ã
202. chtrãr̃ã
203. wtrãr̃ã
204. pərãr̃ã'
205. kərãr̃ã'
206. cərãr̃ã
207. sərãr̃ã
208. lərãr̃ã
209. mərãr̃ã
210. wərãr̃ã
211. thɑrãr̃ã
212. kɑrãr̃ã
213. chɑrãr̃ã
214. dɑrãr̃ã
215. jɑrãr̃ã
216. mɑrãr̃ã
217. pɔctãr̃ã
218. wərtãr̃ã
219. ətkãr̃ã
220. lətkãr̃ã
221. khtskãr̃ã
222. khɑrkãr̃ã
223. chtrkãr̃ã

224. rɪrkãr̃ã
225. phərkãr̃ã
226. pərkãr̃ã′
227. khərkãr̃ã
228. bərkãr̃ã
229. khɑrcãr̃ã
230. səmjãr̃ã
231. ɑljãr̃ã
232. sɑljãr̃ã
233. tərfãr̃ã
234. tərsãr̃ã
235. bəxsãr̃ã
236. cəmxãr̃ã
237. lərzãr̃ã
238. dɪslãr̃ã
239. thətlãr̃ã
240. bədlãr̃ã
241. wɪtrãr̃ã
242. wɪsrãr̃ã
243. kətrãr̃ã
244. kəsrãr̃ã′
245. khɑtrãr̃ã
246. mɑtrãr̃ã
247. ləprãr̃ã
248. pəkrãr̃ã
249. wɪgrãr̃ã
250. cəgrãr̃ã′
251. rəgrãr̃ã
252. mɪcwãr̃ã
253. pɪjwãr̃ã′
254. pɪlwãr̃ã
255. pəkwãr̃ã
256. mərwãr̃ã
257. pərwãr̃ã′

APPENDIX III

English Translation

cndr

To:

1. look for
2. betray
3. dust
4. penetrate
5. shoot

cndr̄

To:

1. hang
2. cough
3. beg
4. dye
5. push in
6. smell
7. cleanse
8. wipe off

cnfrn

To:

1. erect
2. sift
3. know
4. pacify
5. count
6. measure
7. be erected
8. be made
9. deliver (a baby)
10. abuse
11. select
12. listen

cncs̄

To:

1. plaster
2. shiver
3. freeze
4. move around
5. kiss
6. break
7. be agreed to
8. roast
9. penetrate
10. knee
11. shave

cn̄cs̄

To:

1. be ground
2. be pressed
3. shrink
4. be entangled
5. sink
6. tighten
7. rub
8. show
9. run
10. laugh
11. rain
12. glow
13. be angry
14. smoke

cn̄cs̄

To:

15. shout
16. peel
17. meet
18. be used to
19. grow
20. fry
21. be moulded
22. walk
23. bear
24. burn
25. grind
26. be simmered
27. rub
28. plead guilty
29. move
30. be mixed
31. swell
32. forget
33. be weighed
34. be opened
35. fight
36. be thrown away
37. wonder

cn̄cs

To:

1. grind
2. suck
3. boil
4. cry
5. push
6. collect
7. walk around
8. bring up
9. put off
10. mould
11. burn
12. simmer
13. control
14. investigate
15. weigh
16. open
17. dissolve
18. speak
19. throwaway

cn̄frn̄

To:

1. shut
2. tease
3. tear off
4. watch
5. melt
6. lift
7. dust
8. be destroyed
9. burn
10. penetrate
11. leave
12. rinse
13. run
14. join
15. overlock
16. turn round
17. drown
18. twist
19. sprinkle
20. loose ground
21. bloom
22. be started
23. read
24. melt

cn̄frn̄

To:

25. chisle
26. climb
27. fix
28. fight
29. cover
30. be burnt
31. enter
32. be short of supply
33. grumble
34. be joined
35. turn around
36. be drowned

cn̄fr̄

To:

1. saw
2. turn round
3. encircle
4. stop
5. cause to swim
6. spr̄ead
7. kill
8. spend (time)
9. sacrifice
10. be defeated
11. turn into pieces
12. see off
13. gaze at
14. walk
15. be encircled
16. be sawed
17. fill in
18. swim
19. do
20. be frightened
21. die
22. be turned into pieces
23.

phs̄r̄

To:

1. bend
2. chew
3. write
4. learn
5. be spread
6. taste
7. keep
8. cut
9. measure
10. be injured
11. ask for

phs̄r

1. To stand up

pvs̄r̄

To:

1. get on well
2. bury
3. find out
4. be penetrated
5. prick
6. drown
7. call for
8. load
9. advance

pvs̄r̄

To:

10. jump
11. cheat
12. be put on
13. flow
14. be famous
15. be wet
16. cover
17. shout
18. be decorated
19. be full
20. ring
21. be roasted
22. go off
23. inflate

pvs̄r

To:

1. turn out
2. fly

phv̄s̄r̄

To:

1. be warm
2. plaster
3. fold
4. cut
5. be printed
6. catch
7. hide
8. spin
9. roof
10. be harnessed
11. push
12. pull
13. be sold
14. be cooked
15. swallow
16. look out
17. be tired
18. shut
19. spit
20. bite
21. be banged
22. lift
23. bend
24. be dried
25. be finished
26. stop
27. be saved
28. shout
29. dance

phv̄s̄r

To:

1. cry
2. go off
3. be rubbed off
4. take out
5. burst out
6. be reduced
7. earn
8. lick
9. memorise
10. earn
11. eat too much
12. break down
13. beat
14. squeeze
15. be left out
16. rob

phv̄sr̄

To:

1. print
2. strangle
3. chew
4. win
5. trace
6. warm
7. see
8. chirp
9. long for
10. swing
11. give out fragrance
12. stop
13. bang
14. push into
15. abuse
16. stop
17. call
18. measure
19. sell
20. reach
21. think

phv̄sr

To:

1. lie down
2. liquidize
3. swing
4. shut

pvsr̄

To:

1. penetrate
2. prick
3. drown
4. keep awake
5. send

pvsr

To:

1. play
2. weed

ɑr

To:

1. grease
2. catch
3. be proud
4. catch
5. be wet
6. be angry
7. quarrel
8. rub
9. be destroyed
10. stick to

ɑr̄

To:

1. use
2. stay
3. hang
4. hesitate
5. move slightly
6. cry with pain
7. scratch
8. intimidate
9. rattle
10. spray
11. intimidate

ɔr̄

To:

12. whisk
13. toss head
14. flare up
15. boil
16. spend (money)
17. scratch
18. understand
19. be entangled
20. be released
21. toss head
22. long for
23. forgive
24. shine
25. shout
26. shiver
27. get out
28. swallow
29. control oneself
30. cut (clothes)
31. be embarrased
32. dig
33. make water
34. be separated
35. cut
36. rub
37. pass by

o

To:

1. drink
2. line
3. sew
4. press
5. give away
6. drench
7. be worn
8. fall down
9. tell
10. sit down
11. bear
12. take
13. stay
14. come
15. wear
16. warm
17. eat
18. want
19. lay down
20. sing
21. go
22. wash
23. remove
24. snatch
25. kill
26. milk
27. go to sleep
28. weep
29. deliver (a baby)
30. bring
31. Cause to wear
32. " " wash
33. " " kill
34. " " milk
35. " " sing
36. " " sleep
37. " " take off
38. give bath
39. bend

o

To:

40. warm
41. get plastered
42. pass by
43. get folded
44. get cut
45. get printed
46. get caught
47. get chewed
48. hide
49. cause to win
50. get chewed
51. get spinned
52. get roofed
53. tease
54. get pacified
55. make cry
56. spoil
57. cause to sit down
58. " " dig out
59. " " burst
60. " " make money
61. get cut
62. get licked
63. get fall down
64. memorize
65. buy
66. remove
67. tease
68. heat
69. cause to be squeezed
70. cause to swing
71. spend money lavishly
72. cause to shut
73. " " stand up
74. " " push
75. " " pull
76. " " trace
77. " " sell
78. " " write
79. " " learn
80. cook
81. cause to swallow
82. show
83. make tired
84. get shut
85. cause to taste
86. " " put down
87. " " spit
88. " " bite
89. " " bang
90. get lifted
91. get bent
92. get dried
93. finish
94. get stopped
95. injure
96. spread
97. digest
98. save
99. shout
100. cause to dance
101. mislead
102. get measured
103. get investigated

To:

104. put up with
105. press
106. prick
107. drown
108. cause to call
109. " " load
110. extend
111. cause to jump
112. " " play
113. " " take out
114. fly
115. awake
116. put on
117. flow
118. make famous
119. get covered
120. decorate
121. feed
122. ring
123. put off
124. inflate
125. get ground
126. get pressed
127. entangle
128. penetrate
129. tighten
130. rub
131. abduct
132. cause to rain
133. make laugh
134. cause to suck
135. make angry
136. boil
137. make cry
138. glow
139. smoke
140. make to drink
141. clean
142. mix
143. make used to
144. get fried
145. drive
146. cause to bear
147. get ground
148. simmer
149. cause to plead guilty
150. Cause to rub
151. mix
152. move
153. inflate
154. mislead
155. get weighed
156. cause to open
157. " " fight
158. Call for
159. cause to be thrown away
160. get plastered
161. cause to give away
162. earn
163. deliver (a baby)
164. turn round
165. cause to break

9

To:

166. pacify
167. get roasted
168. feed too much
169. get kneeded
170. get shaved
171. cause to count
172. cause to measure
173. make
174. cause to deliver (a baby)
175. cause to abuse
176. " " select
177. tell
178. get dusted
179. cause to penetrate
180. " " shoot
181. " " search for
182. " " hang
183. ask for
184. cause to be dyed
185. cause to push in
186. make to smell
187. cause to cleanse
188. " " wipe off
189. " " walk
190. " " be sawed
191. " " be sewn
192. " " fill in
193. " " stop
194. frighten
195. get killed
196. defeat
197. cause to walk
198. steal
199. get shut
200. cause to loose ground
201. cause to bloom
202. cause to start
203. adjust
204. teach
205. get chisled
206. uplift
207. cause to be spoiled
208. " " fight
209. get covered
210. cause to enter
211. " " be short of supply
212. tease
213. get released
214. cause to run
215. " " be joined
216. " " turn round
217. repent
218. serve
219. stop
220. hang
221. move slightly
222. cause to scratch
223. spray
224. get whisked
225. cause to flutter
226. cause to flare up

To:

227. rattle
228. boil
229. get scratched
230. make to understand
231. to entangle
232. resolve
233. cause to flutter
234. " " long for
235. " " forgive
236. shine
237. cause to shiver
238. show
239. stutter
240. change
241. get cut
242. cause to separate
243. get cut
244. cause to rub
245. " " dig
246. " " make water
247. " " be caught
248. " " " "
249. make angry
250. cause to fight
251. " " rub
252. " " measure
253. " " send
254. " " drink
255. " " cook
256. " " be killed
257. " " read

APPENDIX IV

LIST OF OPERATOR VERBS

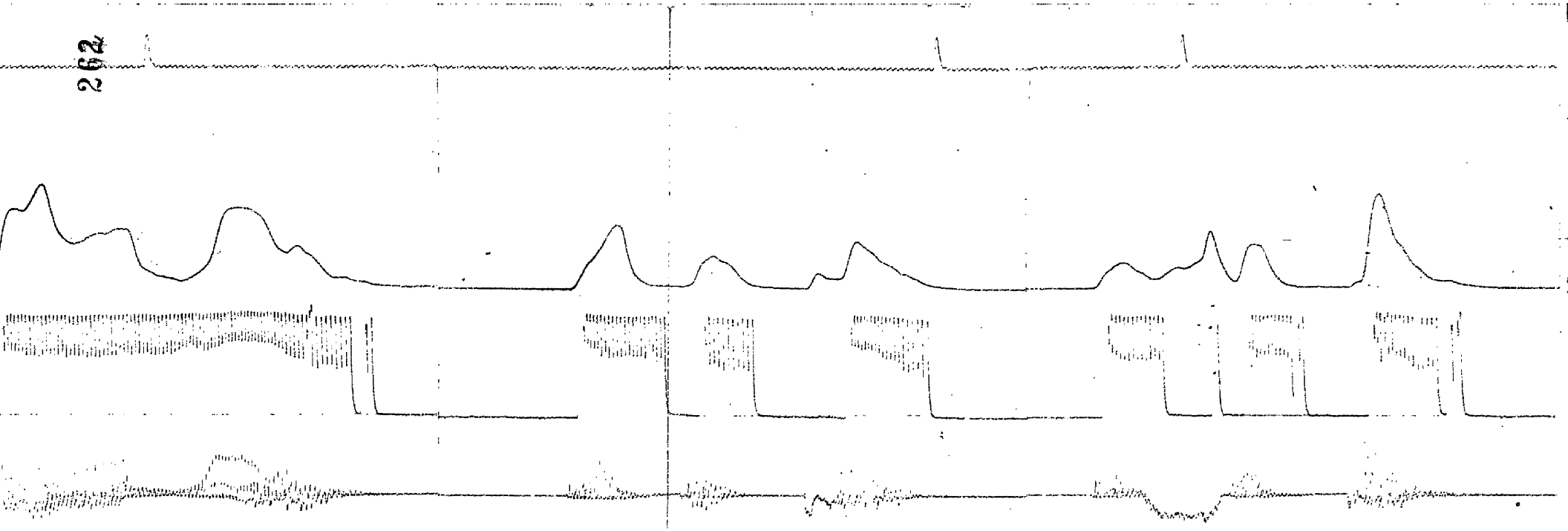
AS THEY APPEAR IN THE [r̃ã] PIECE.

[ãr̃ã jãr̃ã dẽr̃ã pɛ̃r̃ã lɛ̃r̃ã rɛ̃r̃ã kərnã]

APPENDIX V

LIST OF AUXILIARY VERBS:

TENSE	GENDER	PERSON					
		I		II		III	
		Singular	Plural	Singular	Plural	Singular	Plural
PAST	MASCULINE	[w̃ã]	[ã]	[ẽ]	[o]	[e]	[n]
	FEMININE	[ã]	[ã]	[ẽ]	[o]	[e]	[n]
PAST PARTIPLE	MASCULINE	[ə̃ỹã]	[ə̃ỹã]	[ə̃ỹɛ̃]	[əyo]	[əya]	[əe]
	FEMININE	[ə̃ỹã]	[ə̃ỹã]	[ə̃ỹẽ]	[əyo]	[əi]	[ə̃ỹã]
FUTURE	MASCULINE	[sã]	[s̃ĩẽ]	[sẽ]	[so]	[si]	[sə̃n]
	FEMININE	[sã]	[s̃ĩẽ]	[sẽ]	[so]	[si]	[sə̃n]



[e admi e]

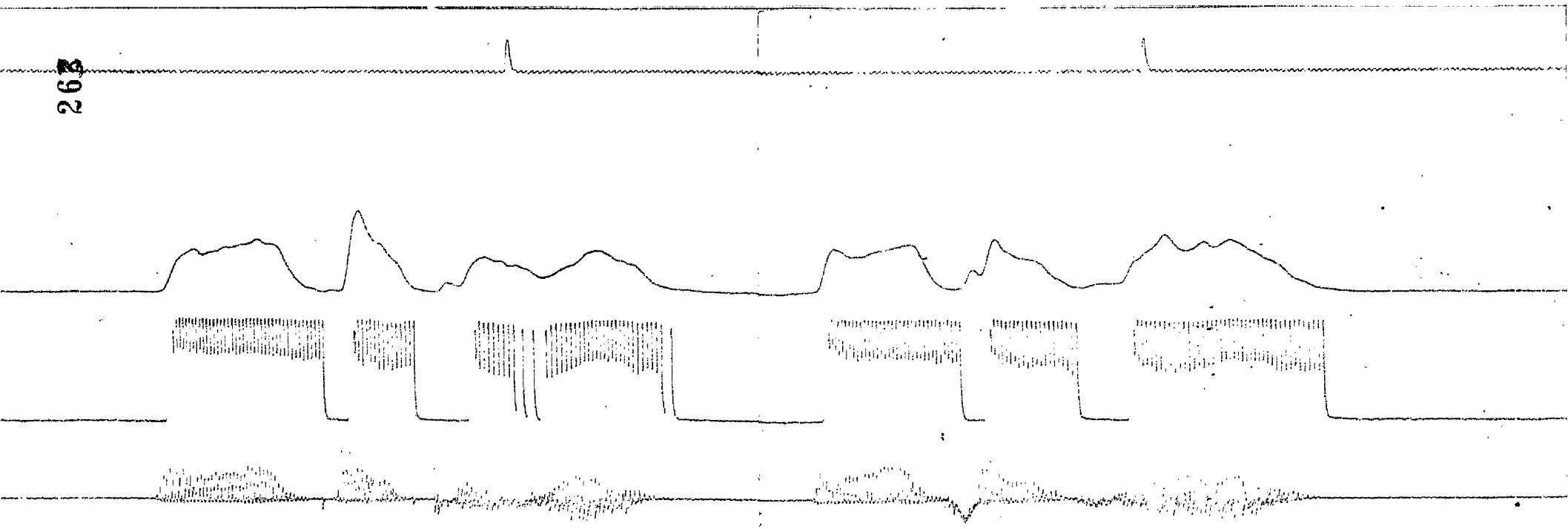
[o t̪ə t̪:hɛ́]

[o sət:ɛ]

Tgm. 1

Tgm. 2

Tgm. 3

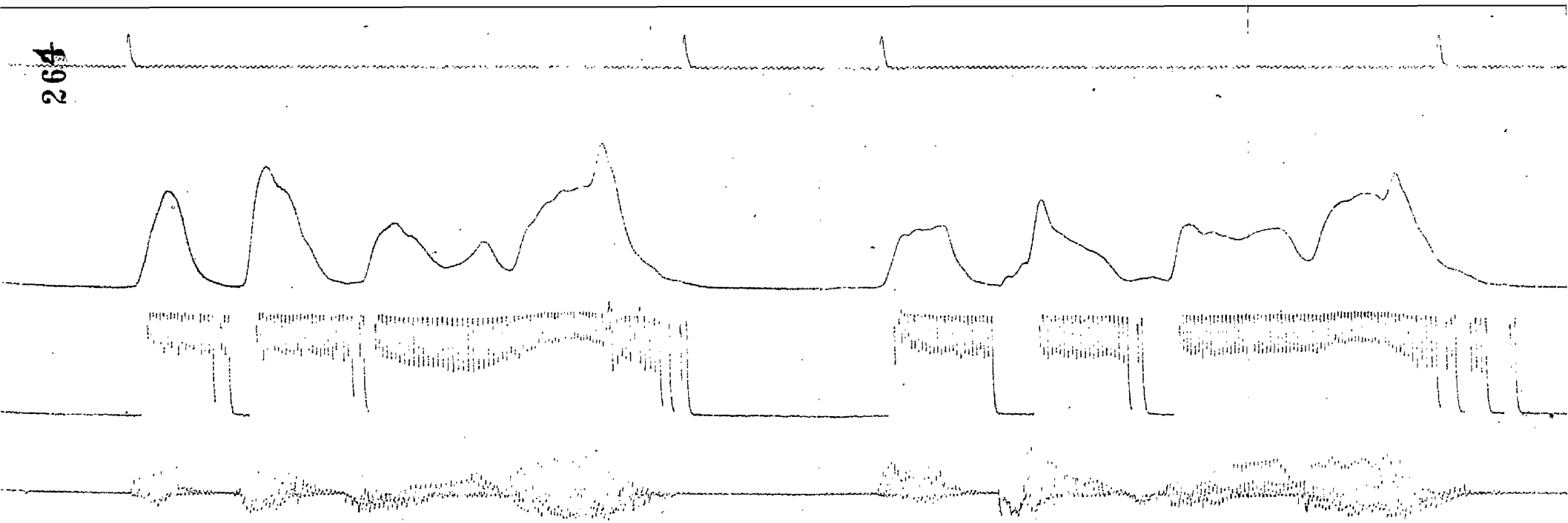


[ãn:ŭ pərkayɛ́]

Tym. 4

[ãn:ŭ cəmxayɛ̃]

Tym. 5

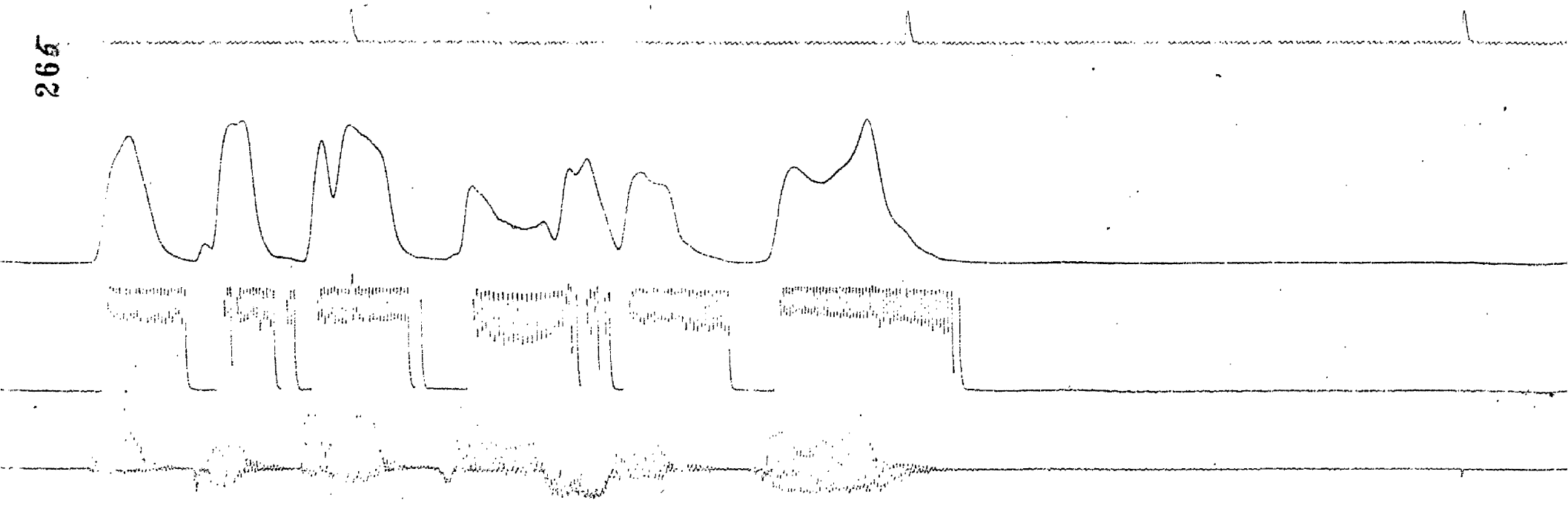


[o pəɤkãndi e]

Tgm. 6

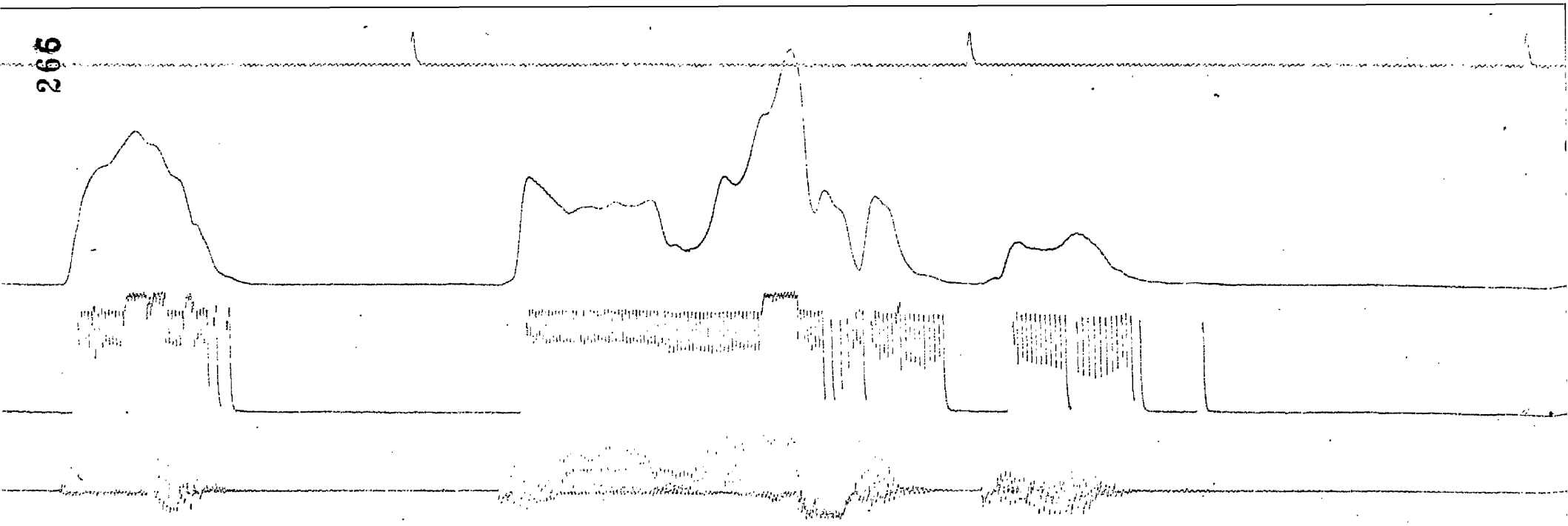
[o cəmxãndi e]

Tgm. 7



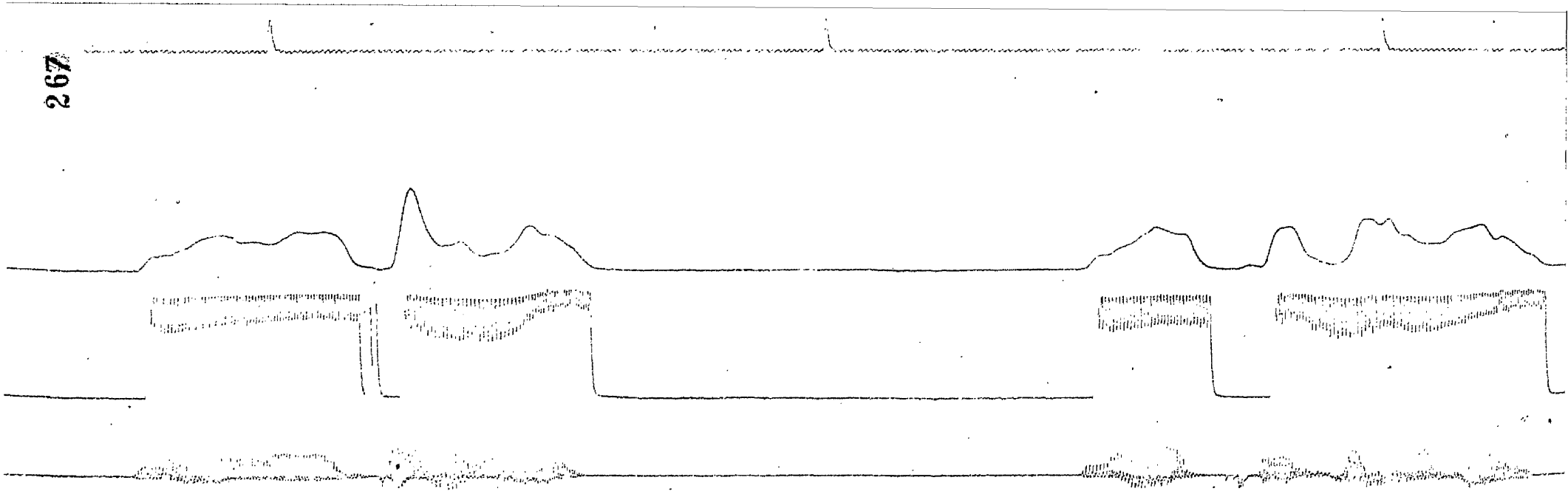
[o kəpɪe tɨ' səkdi e]

Tym. 8



[o tɔ̃n:ũ ro səkdi e]

Tgm. 9

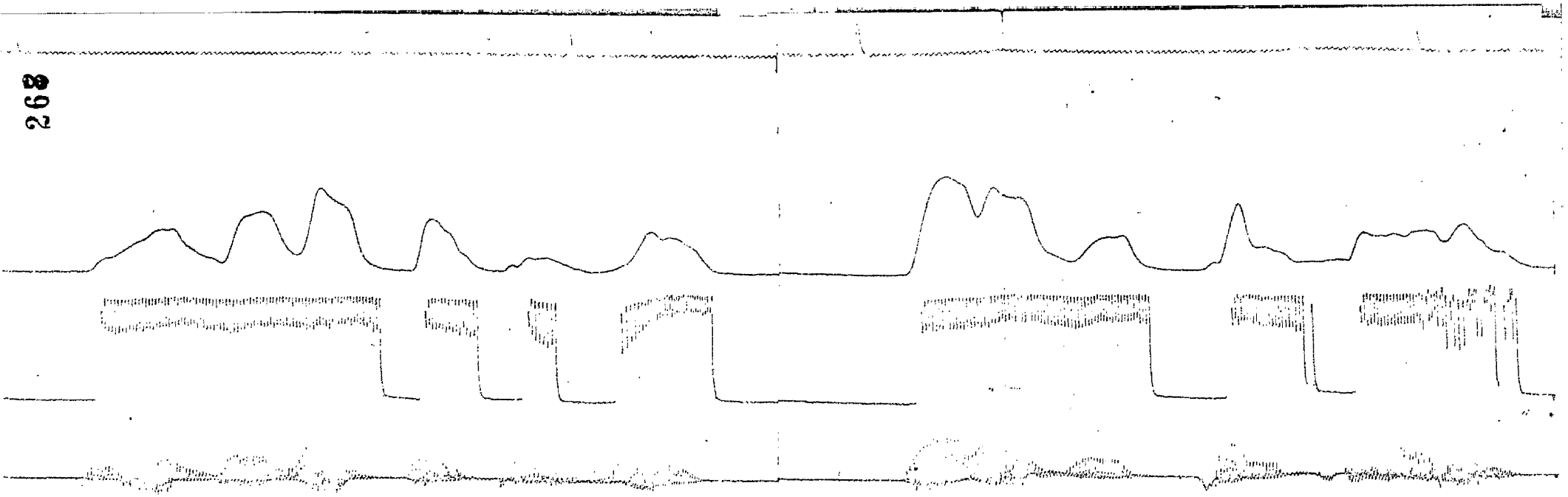


[mɛ̃ mɑ̃· tõw̃ɑ̃ˊ]

Tgm. 10

[mɛ̃ ɑt:he jɑ̃w̃ɑ̃]

Tgm. 11

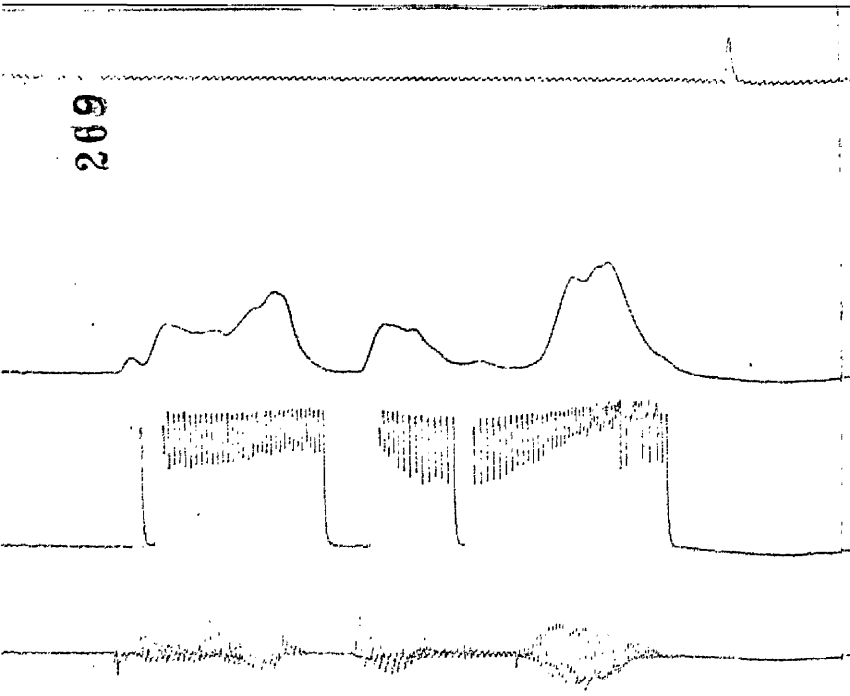


[mɛ̃ ɖiwa pəɻkɑ̃ɑ̃ɑ̃́]

Tgm. 12

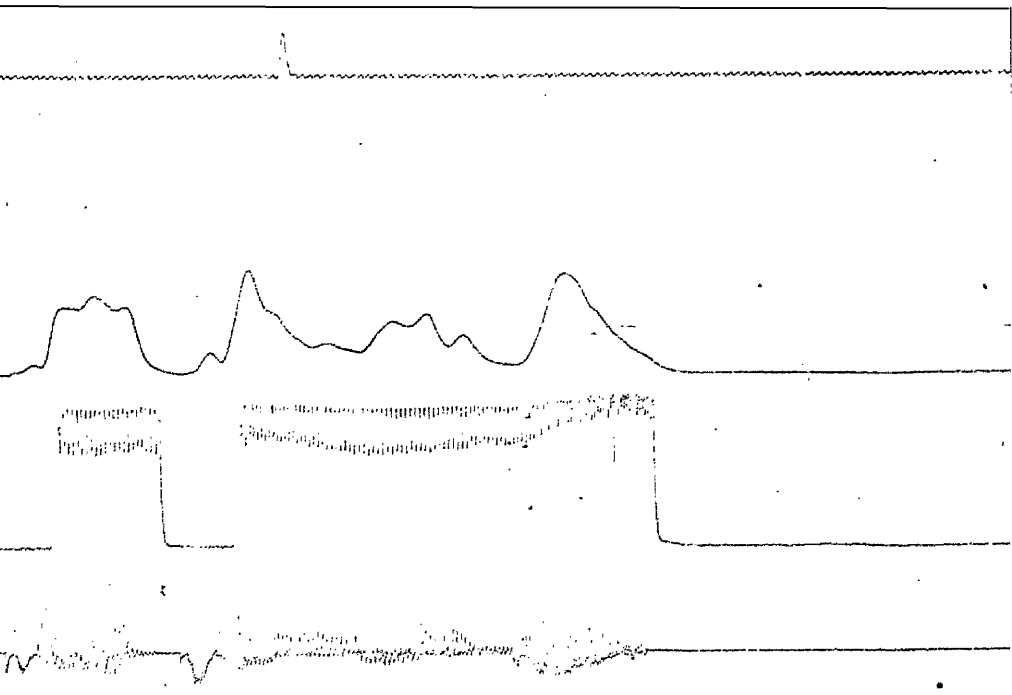
[tera buʈ cəmxɑ̃ɑ̃ɑ̃]

Tgm. 13



[kəɣə́ pəŕ gɛɛ]

Tgm. 14



[cac:a mər gɛɛ]

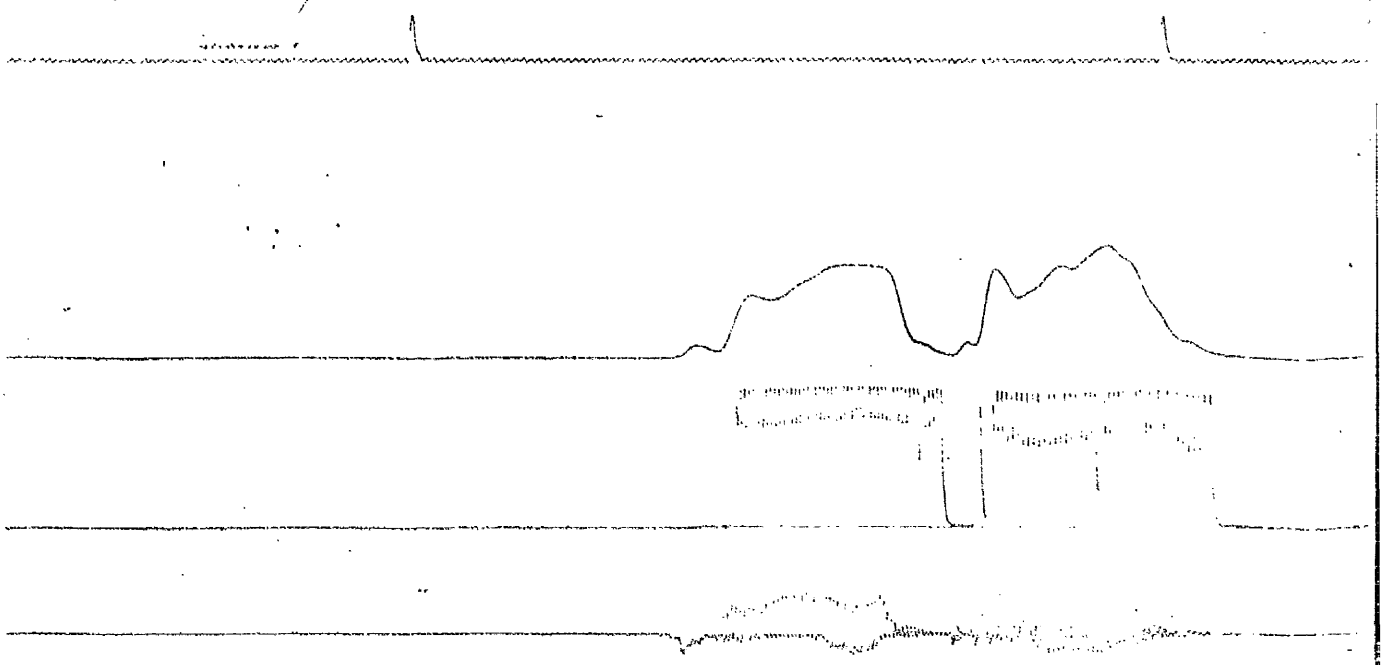
Tgm. 15

[o tani: peiza, ker si:]

Ign. 16

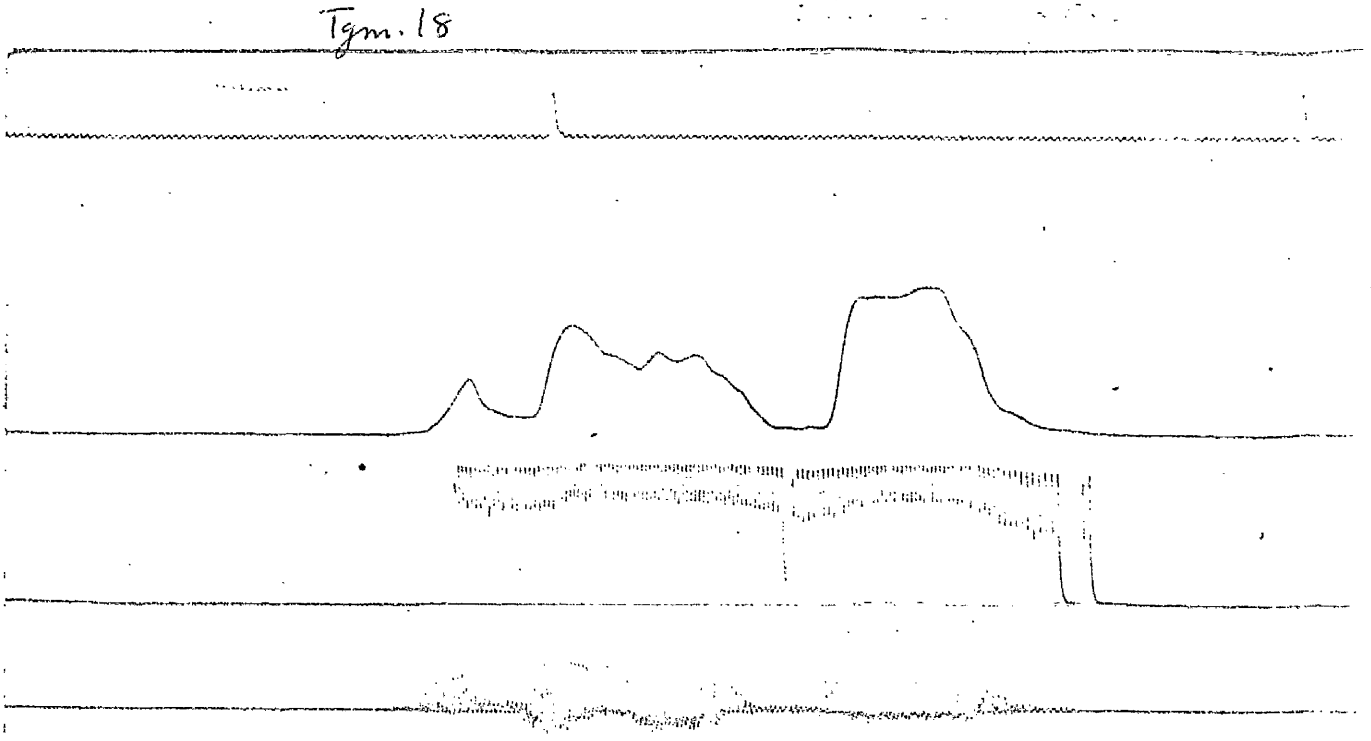
[o tani: satsa ker si:]

Ign. 17

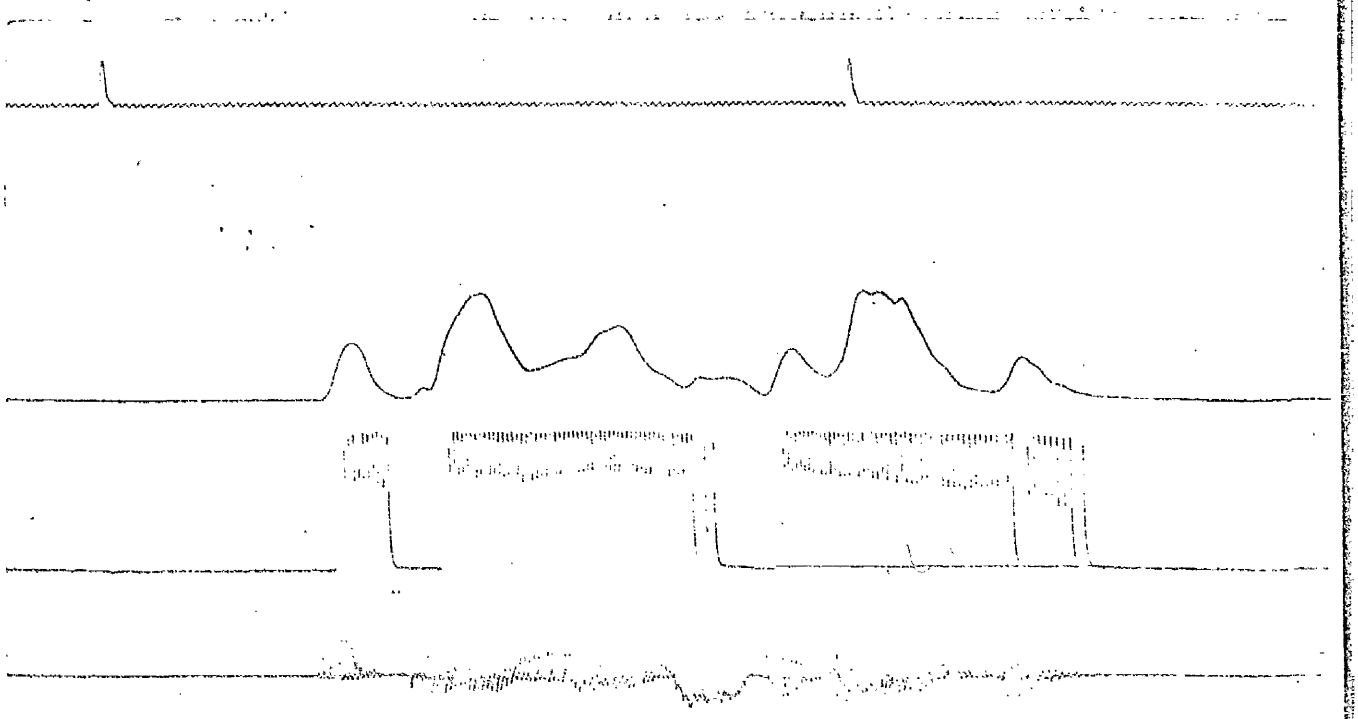


[cin:i kol']

Tgm. 18

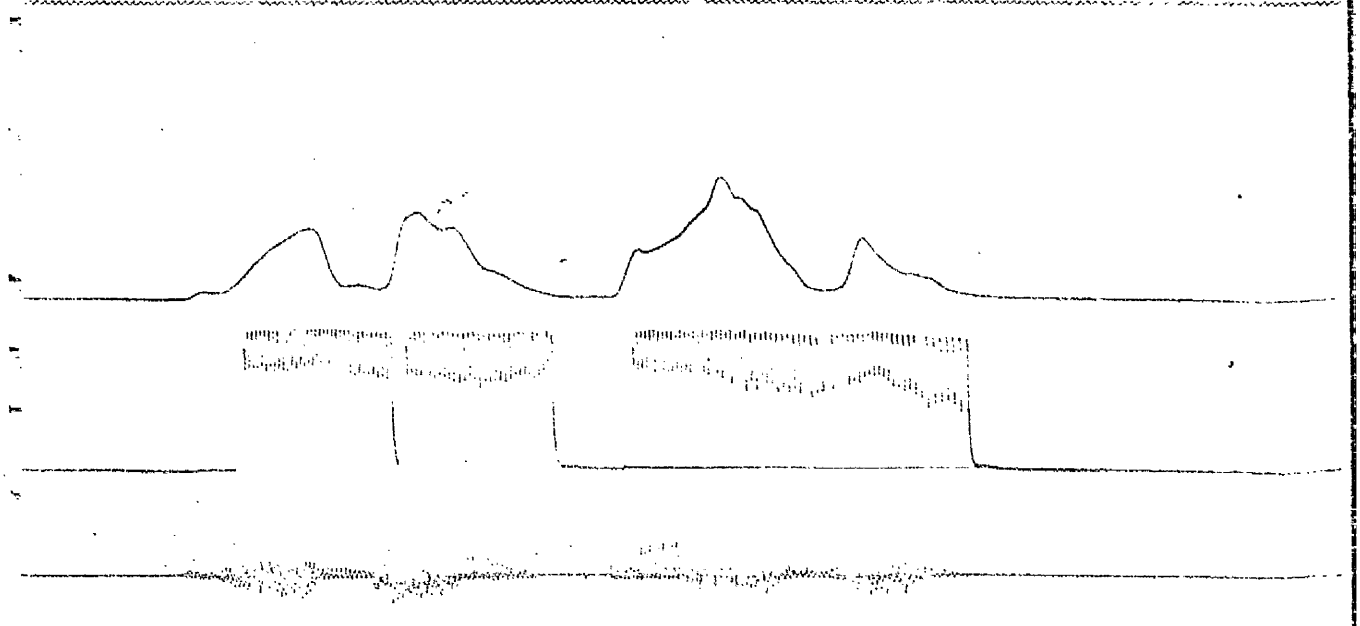


Tgm. 19 [odie nal bol]



[pokaɲi:a' saja dc]

Tgm.20



Tgm 21 [e gal pala' de]

60	70	80	90	100	120	140	160	180	200	225	250	275	300	325	350	375	400

BIBLIOGRAPHY:

ABERCROMBIE, D.	1956 1966	Problems and Principles in Language Study, London, 1956. Elements of General Phonetics, Edinburgh, 1966.
ALLEN, W.S.	1953	Phonetics in Ancient India, London, 1953.
AUSTIN, W.M.	1957	Criteria for Phonetic Similarity Lang. 33/4/1.
BAHAL, K. C.	1957	Tones in Panjabi, Indian Linguistics, 17, 1957.
BAILEY, T.C.	1913	Panjabi Phonetic Reader, London, 1913.
BECKER, C.A., NARANG, C. C.	1971	Aspiration and Nasalization in the generative phonology of Hindi, Urdu, Lang. Vol. 47 No. 3.
BLOOMFIELD, L.	1914	An Introduction of the Study of Language, London and New York, 1914.
BOLINGER, D. L.	1949	Intonation and Analysis, Word, 5/1949.
BURTON-PAGE, J.	1957	Compound and Conjunct Verbs in Hindi, BSOAS XIX/3.
CANOCHAN, J.	1964	Gemination in Hausa, Pitch Tone and Intonation in Yoruba. *
COLLINGE, N.E.	1959	External Sandhi in Indo-European, Lingua viii/3/9-1959.
DAVE, R.V.	1967	A Formant Analysis of Clear Nasalized and Murmured Vowels in Gujrati, Annual Report of the Institute of Phonetics University of Copenhagen No. 2, 1967.

* In honour of Daniel Jones, ed. D. Abercrombie, D.B. Fry, P.A.D. Mc.Carthy, N.C. Scott, J.L.M. Trim. (London) pp 397-406.

DEWANA, M.S.	1933	Panjabi Language and Prosody, Lahore, 1933.
FIRTH, J. R.	1957	Phonological Features of Some Indian Languages, papers in Linguistics London 1957.
	1930	Speech, London 1930.
FISHER- JØR. GENSEN, E.	1954	Acoustic analysis of Stop Consonants, Miscellanea Phonetica II
GILL, H. S.	1963	Panjabi Tonemics, Anth. Ling. 2 No 6, 1963.
GILL, GLEASON, H.A.	1963	A Reference Grammar of Panjabi, 1963.
GLEASON, H:A.	1961	An Introduction to Descriptive Linguistics, New York, 1961.
GRIERSON, Sir George.	1916	Linguistic Survey of India, viii, 1916.
HALLIDAY, M.A.K.	1970	A Course in Spoken English Oxford, 1970.
HARRIS, Z. S.	1951	Co-occurence and Transformation in Linguistic Structure, Lang., 33/3/1. Structural Linguistics, 1951.
HENDERSON, E: J. A.	1970	Acoustic Features of Certain Consonants and Consonant Clusters in Kabardian, BSOAS xxxiii Part I.
HOARD, J:E.	1971	Aspiration, Tenseness and Syllabification in English, Lang, Vol 47/1.
HOCKETT, C.F.	1955	A Manual of Phonology, Baltimore, 1955.
	1958	A course in Modern Linguistics, New York 1958.

HOUSEHOLDER, F. W.	1972	Accent, Juncture Intonation and my Fathers Reader, Lang. Vol. 48/3.
INTERNATIONAL PHONETIC ASSN.	1904	Aims and Principles of the International Phonetic Association, Bourg-La-Reine, 1904.
JACOBSON, R. and HALLE, M.	1956	Fundamentals of Language, The Hague, 1956.
JENSEN, M.K.	1961	Tonemicity, Universitet i Bergen Arbok 1961 (n. Us. P.) Bergen- Oslo.
JONES, D.	1950	The Phoneme: its Nature and Use, Cambridge 1950.
JOSHI, S. S.	1970	A Phonological and Phonetic Study of Pitch and other Associated Features in Panjabi (Doabi), M. Phil. Thesis London University, 1970.
KRISHNAMURTI, B.	1958	Alternation of i/e and u/o in South Dravidian, Lang. 34/4.
PALMER, H.E.	1922	English Intonation with Systematic Exercises, Cambridge, 1922.
PIKE, K.L.	1948	Tone Languages, Ann Abor, 1948, Intonation of American English, Ann Abor 1946.
	1946	
ROBINS, R.H.	1953	The Phonology of Nasalised Verbal Forms in Sudanese, BSOAS XV/1 pp. 138-45
	1957	Aspects of Prosodic Analysis. *
	1963	General Linguistics in Great Britain 1930-60, Trend in Modern Linguistics, ed. C. Mohrmann, F. Norman and A. Sommerfelt (Utrecht) pp. 11-37.

* Proceedings of the University of Durham, Philosohical Society Series B (Arts) I, pp. 1-12

SAMPOT, K.S. 1964 Tonal Structure of Majhi, Indian Linguistics vol. 25.

SAPIRE, E. 1921 Language: an Introduction to the Study of Speech, New York.

SHARP, A.E. 1958 Falling Rising Intonation Pattern in English,,Phonetica 3/4.

SPRIGG, R:K. 1970 The Tonal System of Tibetan(Lhasa dialect) and Nominal Phrase, BSOAS, XVII, 1 pp.133-153. (Reprinted in Palmer, 1970 as pp.112-132).

1966 Phonological Formulae for the Verb in Limbu as a Contribution to Tibeto-Burman Comparison,In Memory of Firth ed. C.E. Bazel, J.C. Catford, M.A.K. Halliday and R.H. Robins, London pp.431-53.

1965 Prosodic Analysis of Burmese Syllable-Initial Features, Anthropological Linguistics vol. 7 number 6 pp.59-81.

1961 Vowel Harmony in Lhasa-Tibetan: Prosodic analysis applied to interrelated vocalic features of successive syllables, BSOAS, XXIV, 1, pp.118-138.

1953 Verbal Phrases in Lhasa-Tibetan, BSOAS, XVI,1, pp.134-56.

1966 Lepcha and Balti-Tibetan: tonal or non-tonal languages? , Asia Major, New Series, XII,2, 185-201.

1967 Balti-Tibetan Syllable Finals, and a Prosodic Analysis, Asia Major, New Series vol. XIII, parts 1-2, pp. 187-210.

1968 The Phonology of th Grammatical Constituent

of Verbal-Phrase Words in Spoken Tibetan (Lhasa Dialect), Ph.D. Thesis, University of London.

SWEET, H. 1888 A History of English Sounds, Oxford.

1877 Hand Book of Phonetics, Oxford.

TRUBETZKOY, N.S. 1949 Principles de phonologie, Paris.